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MONTANA STATE PLAN
FOR HEALTH

AUGUST, 1974

DIVISION OF COMPREHENSIVE HEALTH PLANNING
DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
HELENA, MONTANA



THOMAS L. JUDGE
GOVERNOR

State of Montana
Office of The Governor
Helena 59601

August 13, 1974

To the Citizens of Montana:

The Montana State Plan for Health, developed by the Division of Comprehensive Health Planning of the Department of Health and Environmental Sciences, is an important tool for the provision of effective, comprehensive health services in Montana.

In my opinion, this document represents a significant effort at providing effective guidance to health and health-related decision makers as well as the general public of Montana for the solution of priority health problems concerning us all.

I hope that you will give the recommendations contained within this Plan your sincere consideration.

Sincerely,

A handwritten signature in dark ink, appearing to read "Thomas L. Judge", written over a horizontal line.

THOMAS L. JUDGE
Governor

Montana State Library



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Department of Health and Environmental Sciences

STATE OF MONTANA HELENA, MONTANA 59601

John S. Anderson M.D.
DIRECTOR

August 5, 1974

Dear Readers:

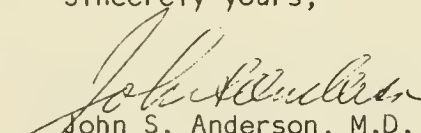
A major effort of the Department of Health and Environmental Sciences' Division of Comprehensive Health Planning this past year has been the research, compilation, and publication of the attached document. This State Plan for Health is an effort by Comprehensive Health Planning to discern to the greatest possible extent the health needs and concerns of Montanans at this time.

Relying upon input from all segments of society, the Plan intends to provide a blueprint for attacking the health problems identified by those sectors as being most pressing.

It is my hope that those who read this document do so with the understanding that health planning and its benefits are to a greater or lesser extent both a concern and task of all Montana citizens.

Therefore, I recommend to the reader that this Plan be given appropriate attention.

Sincerely yours,



John S. Anderson, M.D.
Director

JSA-MJC:dd



Department of Health and Environmental Sciences

STATE OF MONTANA HELENA, MONTANA 59601

John S. Anderson M.D.
DIRECTOR

August 5, 1974

Dear Readers:

The attached document is the Montana State Plan for Health developed by the Comprehensive Health Planning Division of the Department of Health and Environmental Sciences. This Plan is intended to be a reflection of those health concerns of paramount importance to Montana's citizens. In order to produce such a document, the input and efforts of hundreds of Montana citizens, members of the Comprehensive Health Planning Advisory Council, the Council's sub-committees, and numerous other individuals as well as the Comprehensive Health Planning staff were solicited.

This Plan has been thoroughly reviewed by the sub-committees and the entire Comprehensive Health Planning Advisory Council, and it has been approved by the Advisory Council. Its implementation is now dependent upon the sustained interest and activities of all Montana citizens concerned with making Montana a more healthful place to live.

As new health concerns and problems are recognized, these will be addressed. The Plan has been designed to be flexible in its capability to confront changing health needs. As Chairman of the Advisory Council for Comprehensive Health Planning, I urge that all who read this document lend both their consideration and input to the process of health planning in Montana.

Sincerely,

Donald E. Pizzini, Chairman
Montana Advisory Council for
Comprehensive Health Planning



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Summary

Following is a list of the problems discussed in the State Plan for Health. Objectives and sub-objectives addressing each problem are enumerated.

p. 38 PROBLEM: Too little emphasis is placed on preventive health services in Montana.

Objective 1: To strengthen existing programs which offer preventive health services, specifically a) programs being conducted by the Department of Health and Environmental Sciences and b) community-based health care programs.

Sub-Objective a: To support the adoption of an affirmative action policy with regard to family planning in Montana by 1976.

Sub-Objective b: To support and insure adequate funding for the continuation of the preventive dentistry program being conducted by the Dental Health Bureau, Department of Health and Environmental Sciences.

Sub-Objective c: To actively support fluoridation of drinking water as a method of inhibiting dental disease.

Sub-Objective d: To insure adequate funds to continue and expand the Title XIX screening for children currently being carried on by Maternal and Child Health Bureau, Department of Health and Environmental Sciences.

Sub-Objective e: To develop on-going well-child clinics in five population centers by 1976.

Objective 2: To examine new approaches for providing preventive health services to Montanans.

Sub-Objective a: To determine the degree to which prevention is and/or could be an aspect of the programs within each division and bureau of the Department of Health and Environmental Sciences and to design a mechanism for a cross-pragmatic approach to prevention within the Department of Health and Environmental Sciences by 1976.

Sub-Objective b: To identify a county with poor health status (as proven by statistics), isolate a statistic, develop a preventive campaign to lower the incidence of the condition by 1976.

Objective 3: To provide more and continued information and education regarding personal preventive health measures and preventive health services to the public.

- Sub-Objective a: To encourage the development of an effective adult health education package containing preventive health information to be used for presentations to service clubs, PTA's, senior citizen's groups and other organizations showing interest by 1975.
- Sub-Objective b: To provide at least two continuing education seminars on preventive health for health professionals in Montana by 1976.
- Sub-Objective c: To provide at least two seminars for elementary and secondary school teachers on preventive health measures by 1976.
- Sub-Objective d: To develop a program of continuing education for dental professionals to disseminate information regarding new trends in dentistry, including prevention techniques.

Objective 4: To encourage that all plans for health-related programs identify causes and develop prevention techniques within the Plan.

- Sub-Objective a: To require that all plans developed by the Department of Health and Environmental Sciences include prevention planning by 1975.
- Sub-Objective b: To include a consideration of prevention planning in review of health-related plans.

Objective 5: To require insurance companies to design health insurance programs which support and encourage preventive health care.

- Sub-Objective a: To research and draft legislation to require that insurance companies in Montana must offer a package which provides for preventive care by 1976.

p. 48 PROBLEM: Health education has been underestimated as an integral part of the health care delivery system in Montana.

Objective 1: To develop a multi-faceted system of health education which is uniformly available to all Montanans.

- Sub-Objective a: To develop a model school health education program in a school district in one CHP areawide district in the State, involving participation of the community, including school board, school officials, teachers, parents, students, school health nurses or community health nurses and community leaders by July, 1975.

- Sub-Objective b: To organize meetings to discuss need for comprehensive school health education with CHP areawide representatives and other community leaders including school officials, teachers and students, to be held the same day teachers meet to discuss use of the Health Curriculum Guide by July, 1975.
- Sub-Objective c: By 1979, to implement comprehensive school health education programs in grades kindergarten through twelve in at least one school district in each of the five areawide CHP organizations.
- Sub-Objective d: To require the certification of personnel teaching health education in public schools by 1979.
- Sub-Objective e: To promote passage of Federal legislation to provide demonstrations and training projects for school health education.
- Sub-Objective f: To coordinate health education efforts for geographic regions of the State by July, 1975.
- Sub-Objective g: To place by 1976, at least one health education staff person responsible to a local health authority or the State Department of Health and Environmental Sciences in two of the five CHP areas in the State to develop areawide community health education programs for those areas.
- Sub-Objective h: By 1977, to develop such a plan and initiate implementation.
- Sub-Objective i: By 1979, to evaluate the plan and if it has proved its effectiveness, continue in that area and offer to other areas in the State.
- Sub-Objective j: By 1976, to initiate, through efforts of Office of Superintendent of Public Instruction and State Department of Health and Environmental Sciences, adult education classes in health education in five school districts in the State, either as part of the comprehensive community health education areawide program or as separate demonstration projects.
- Sub-Objective k: By 1975, to explore the possibility of writing a grant to employ health education aides for one or two areawide CHP areas to work with State Department of Health and Environmental Sciences health education staff in providing health education services to the area or specific communities.

Sub-Objective l: By 1976, to develop and demonstrate a model for sharing patient education personnel by three or more hospitals in one of the Hospital Learning Center areas which can be adapted to other hospital and nursing homes in the State.

Sub-Objective m: By 1979, to establish organized patient education programs in at least fifty percent of the hospitals and nursing homes in Montana.

p. 51 PROBLEM: Primary and emergency medical services are often not available to Montana citizens.

Objective l: To insure appropriate health care to Montana citizens.

Sub-Objective a: To support and assist in the implementation of the MONTANA STATE PLAN FOR THE IMPROVEMENT OF EMERGENCY MEDICAL SERVICES by 1976.

Sub-Objective b: To promote the development of a preventive portion of the State Emergency Medical Services Plan by 1976.

p. 53 PROBLEM: The people of Montana do not receive a uniform minimum level of local public health services.

Objective l: To promote the adoption of the concept of regionalization for the delivery of public health services.

Sub-Objective a: To investigate the adoption of the Governor's twelve sub-state districts as principal local public health jurisdictions for Montana and arrive at a final decision by July 1, 1975.

Sub-Objective b: To investigate the possibility of decentralization of the Department of Health and Environmental Sciences into the Governor's five administrative areas by July 1, 1977.

Sub-Objective c: To provide additional funds to stimulate the development of acceptable local public health units, providing at least the minimum services with approved organizational structures by July 1, 1977.

Objective 2: To insure the gradual building of an integrated public health program that will provide comprehensive public health services of optimum quality equally available and accessible to all Montanans.

Sub-Objective a: To encourage the Department of Health and Environmental Sciences to take aggressive roles in stimulating and supporting the development of local public health units that provide a minimum level of public health services and acceptable organization and staffing levels.

- Sub-Objective b: To define by July 1, 1975, acceptable minimum levels of local public health services to be provided by local public health jurisdictions.
- Sub-Objective c: To encourage the development of single, full-time, coordinated, integrated organizations for the delivery of local public health services by July 1, 1977.
- Sub-Objective d: To insure that each local public health jurisdiction maintains at least an acceptable minimum level of services and acceptable organization and staffing levels by July 1, 1977, and in subsequent years.

Objective 3: To encourage that local and multi-county Boards of Health be composed of consumers, providers, and locally-elected officials.

p. 60 PROBLEM: Existing health resources are not utilized to the fullest extent.

Objective 1: To promote the coordination and cooperation of existing health-related programs.

Sub-Objective a: To research, develop and disseminate a model for coordination and cooperation among existing health-related programs by 1975.

Sub-Objective b: To encourage health-related programs and local health providers to utilize health information and referral operations as they are developed.

Objective 2: To improve efforts aimed at increasing awareness and understanding of the services provided the public by the Department of Health and Environmental Sciences.

Sub-Objective a: To identify all the individuals working within the Department whose responsibilities include providing information and education to the public on services provided by the Department.

Sub-Objective b: To establish a coordinated public information program by combining the efforts of the scattered information people within the Department and forming a public information office attached directly to the office of the Director of the Department.

Objective 3: To promote increased education of the public as to the available health services in the area.

- Sub-Objective a: To study the utilization of health resources in communities and develop a plan for increasing utilization of those resources which appear to have low utilization rates by 1975.
- Sub-Objective b: To promote the publication and distribution of health resource manuals for at least 20 communities across the State by 1975.
- Sub-Objective c: To promote the development of efficient health information and referral centers in at least five communities across the State by 1976.
- Sub-Objective d: To organize a community-based group of citizens representative of a cross-section of the community, known as health advocates, to be responsible for promoting continued and increased information on available health resources by 1975.

p. 65 PROBLEM: Too little emphasis is given to home health care as an alternative to institutionalization.

Objective 1: To increase the utilization of existing home health care agencies to 150% of their current rate of utilization by 1978.

- Sub-Objective a: To provide a statewide public information program about home health care by 1976.
- Sub-Objective b: To form citizen auxiliaries to each existing home health agency to publicize the agency it serves.
- Sub-Objective c: To encourage health insurance carriers to provide benefits for services offered in the home if they are covered as hospital benefits.
- Sub-Objective d: To assess the need for ancillary services (e.g., homemaker, nutritionist, transportation) and solicit community sponsorship of needed services.

Objective 2: To extend availability of home health care services by 1978 to 20% more of Montana's population than is currently served.

- Sub-Objective a: To determine locations for new home health agencies by 1976 and to establish three new home health care agencies by 1978.
- Sub-Objective b: To establish a statewide group to monitor development of home health services and make recommendations for expansion.

p. 76 PROBLEM: There is no uniform strategy for assessing the development and implementation of mental health services in Montana.

Objective 1: To prepare a State Plan for Mental Health Services in Montana by 1976.

p. 79 PROBLEM: Coordination is lacking in alcoholism and drug abuse planning and administration.

Objective 1: To develop a uniform strategy for the planning and administration of addictive disease prevention and treatment by July, 1975.

p. 81 PROBLEM: There are not enough providers of primary health care in Montana.

Objective 1: To increase the number of providers of primary health care to a provider/population ratio equal to the national average.

Sub-Objective a: To establish a statewide recruitment and placement service for primary health care personnel by 1976.

Sub-Objective b: To study the benefit of providing guarantees (salary, equipment, office space, living quarters) to attract physicians, dentists, etc. and to disseminate the findings to communities in search of manpower by 1975.

Objective 2: To increase the opportunities for Montana students to enter primary health care professions.

Sub-Objective a: To continue financial support of the WICHE student exchange program and increase its level of support as required.

Sub-Objective b: To appropriate funds for the WAMI Project during the 1975 Legislative Session and to continue to fund it thereafter as long as Montana students are educated by it.

Sub-Objective c: To establish a program by 1976 to attract Montana's youth to primary health care careers.

Sub-Objective d: To study by 1976 the feasibility of "buying" places in out-of-state (and out-of-WICHE Region) professional schools and training programs for which Montana cannot establish educational programs within the State.

p. 92 PROBLEM: There is a maldistribution of physicians and other health manpower in Montana.

Objective 1: To provide incentives for health manpower to locate in scarcity areas.

Sub-Objective a: To study the feasibility of attaching a service commitment to the WICHE and WAMI programs by 1975 and to make recommendations to the legislature relative to the findings by 1976.

Objective 2: To provide supports for health manpower serving in scarcity areas to avoid future maldistribution problems.

Sub-Objective a: To provide State funds to continue the Family Nurse Practitioner Program at Montana State University at its present stature past 1975.

Sub-Objective b: To pass legislation by 1976 making legal the use of physician's assistants by physicians licensed to practice medicine in Montana.

Sub-Objective c: To provide back-up personnel to solo primary physicians in Montana by 1977.

p. 98 PROBLEM: There are areas of Montana which cannot hope to have a resident physician due to insufficient population bases and/or lack of amenities for the physician and his family.

Objective 1: To establish a network of identified community health sources in physicianless communities throughout Montana.

Sub-Objective a: To identify all Montana communities which cannot support a physician by fall, 1974.

Sub-Objective b: To identify who and what types of people might be potential Community Health Sources in communities which cannot support a physician by 1975.

Sub-Objective c: To prepare a preliminary model outlining the alternative types of Community Health Sources which might be chosen by communities of various sizes based on preliminary assessment by summer, 1975.

Sub-Objective d: To develop a training program for potential Community Health Sources by 1976.

Sub-Objective e: To establish advisory groups in fifteen communities without a physician whose function would be to determine the most appropriate Community Health Source for that community.

Sub-Objective f: To establish an identified Community Health Source in ten communities in need by 1977.

p. 102 PROBLEM: Racial minorities are under-represented in Montana's health professions.

Objective 1: To increase the number of racial minorities in health careers in Montana.

Sub-Objective a: To foster a closer relationship between the INMED (Indians Into Medicine) Program at the University of North Dakota and schools in Montana by 1975.

Sub-Objective b: To contact every school counselor in Montana by 1976 to offer assistance to them in interesting Indian students in health careers.

Sub-Objective c: To disseminate the pamphlet on health careers prepared under Sub-Objective 2.c. (p. vii) above, to all high school students in schools with significant Indian populations by 1976.

p. 104 PROBLEM: Too little attention has been given to a coordinated, integrated system of health manpower utilization.

Objective 1: To develop educational programs which would a) demonstrate the value of the team concept in health care and b) encourage health providers to accept the team concept.

Sub-Objective a: To conduct two workshops for health providers by 1976 in the eastern and western halves of the State to present the team concept and to discuss ways teams could be utilized and promoted in Montana.

Objective 2: To support the use of paraprofessionals in health programs.

Sub-Objective a: To prepare a paper on the roles and responsibilities appropriate for paraprofessionals in health programs and to disseminate it to programs across the State by 1975.

Sub-Objective b: To establish positions for paraprofessionals in two federally-funded health programs which have not utilized paraprofessionals previously by 1976.

p. 109 PROBLEM: There is only a very limited coordinated system of health facilities offering all levels of care.

Objective 1: Health facilities shall be encouraged to consider sharing services and forming satellite systems.

Sub-Objective a: A voluntary system of shared management services should be functioning in southeastern Montana by January 1, 1975.

Sub-Objective b: At least two additional voluntary regional shared management services shall be functioning in Montana by December, 1975.

Sub-Objective c: Health facilities shall be encouraged to assist in establishing primary care services in areas without such services.

Objective 2: Health facilities shall be encouraged to develop and provide medical social services.

Sub-Objective a: An education program for hospital personnel on the necessity for and feasibility of health facilities offering social service referrals as a shared service where appropriate shall be held in each hospital district by July, 1975.

Sub-Objective b: Medical social service resource people will be identified in each CHP area of the state by July, 1975, and updated annually.

Objective 3: Health facilities shall be encouraged to increase the utilization of and extend the availability of home health services. (See Home Health component for sub-objectives, p. vi.)

p. 114 PROBLEM: There are uneconomic overlaps in the services offered by health facilities.

Objective 1: The construction or modernization of unnecessary beds by health facilities shall be discouraged.

Sub-Objective a: To prevent overbedding through a review and comment mechanism, the State Plan for Hospital and Medical Facilities shall be used as the guideline for determining bed need.

Sub-Objective b: To pass certificate of need legislation.

Objective 2: Unnecessary duplication of services shall be discouraged.

Sub-Objective a: To prevent unnecessary duplication of services through the review and comment mechanism, the guidelines established in the Montana State Plan for Health shall be used to determine the need for the following services:

- Burn treatment center
- Renal dialysis services
- Radiation therapy
- Rehabilitation medicine
- Cardiac catheterization services
- Infant Intensive care services
- Open heart surgery centers
- Intensive care units and coronary care units in small hospitals

Sub-Objective b: Guidelines on which to base review and comment recommendations shall be established for additional services and shall become part of the Montana State Plan for Health within four months of the time the need for such guidelines is identified by the Council.

Objective 3: To improve the review and comment process by increasing opportunities for communication between the Health Facilities Committee of the Montana Advisory Council for CHP and the areawide CHP agencies.

Sub-Objective a: The areawide agencies will be encouraged to invite members of the Health Facilities Committee to their review and comment or Facilities Committee meetings.

Sub-Objective b: The Health Facilities Committee will be informed if the assessments of the areawide CHP agencies show an unmet need in the area of health facilities review.

p. 120 PROBLEM: National legislation and regulation of health facilities and other health concerns do not reflect the needs of rural populations.

Objective 1: To establish a mechanism for attempting to obtain changes in regulations which are insensitive to the problems of health delivery in rural areas.

Sub-Objective a: To form a sub-committee of the State Advisory Council for Comprehensive Health Planning by 1975 whose major responsibility will include the study of national regulations and legislations to determine its impact upon Montana.

Sub-Objective b: To contact appropriate people at the national level on a continuing basis to make them aware of the peculiar problems of health delivery in rural areas.

Sub-Objective c: To support efforts to obtain changes in Medicare and Medicaid regulations that reflect community needs.

Sub-Objective d: To identify other major demands improperly placed on rural health systems by national legislation or regulations by July 1, 1975, and to attempt to change the demands.

p. 122 PROBLEM: Recent concern, both nationally and statewide, about the environment has resulted in increasing efforts in money and time in this area. Still there are environmentally-related health problems which need consideration, and it is to these that the environmental section of the State Plan for Health is directed.

Objective 1: To improve State government's provision of environmental health services.

Sub-Objective a: To commission the conduct of an in-depth management study of provision of environmental health services by July 1, 1975, and to have such a study completed by December 31, 1975.

Alternatives: 1. To study the feasibility of establishing a Bureau of Local Health Services within the SDHES by July 1, 1975.

2. To provide adequate funding to enable enlargement of the SDHES Planning and Management Bureau in order to expand administrative efforts in these aspects to environmental health programs by July 1, 1975.

3. To strengthen the SDHES Legal Services Unit by providing funding to allow addition of two additional staff lawyers by July 1, 1975, and to complete a study of various methods for improving enforcement of environmental health laws and regulations by July 1, 1976.

4. To conduct a study of the desirability and potential of decentralizing environmental health services into SDHES District Offices by December 31, 1975.

Sub-Objective b: To increase information and education efforts of the various environmental health programs by assigning information, public relations, and education responsibilities to a health educator for each bureau within the SDHES Environmental Sciences Division. Adequate funding should be provided to allow placement of this additional personnel, and it is suggested that health educators be directly responsible to the Bureau Chief, with an indirect organizational link to the Health Education Bureau. This should be accomplished by July 1, 1976.

Sub-Objective c: To study the feasibility of a Local Services Bureau within the SDHES by July 1, 1975, and to have such a Bureau established by July 1, 1976, if deemed desirable.

Objective 2: To improve local government's provision of environmental health services.

Sub-Objective a: To obtain support and endorsements of the environmental management systems study and the Local Health Services Bureau recommendations put forth in Sub-Objectives 1.a. and 1.c. by December 31, 1974.

- Sub-Objective b: To have the formula for the provision of SDHES funds to local budgets increased in accordance with recent increases in demands and legislative requirements by July 1, 1975.
- Sub-Objective c: To study the possibility of providing State grant monies to local health units that plan and agree to participate in a comprehensive state-local partnership effort in provision of environmental health services by December 31, 1976.
- Sub-Objective d: To study and develop a proposal for legislative consideration of the expansion of the powers and duties of local boards of health by December 31, 1976.
- Sub-Objective e: To increase the number of sanitarians practicing in the State such that a sanitarian to population ratio of 1 to 12,000 is attained by July 1, 1977.
- Sub-Objective f: To study and develop a proposal for an internship training period for public health sanitarians by December 31, 1975, and to have such a proposal implemented beginning July 1, 1976.

WATER QUALITY

Objective 1: To insure the potability and safety of the State's municipal water supplies.

- Sub-Objective a: To provide the SDHES Water Quality Bureau with additional funding to allow visits and inspections of municipal water supplies as necessary to insure their proper operation and provision of facilities. Funding should be adequate for the provision of manpower, travel expenses, office costs, etc., and should be provided by July 1, 1975.
- Sub-Objective b: To survey, identify, plan, schedule and obtain correction of deficiencies in 85% of the State's municipal water supplies by December 31, 1976. Problem identification should at least cover plant facilities and operation; distribution system; chemical, physical, and bacteriological water quality; and evaluation of operator capability.
- Sub-Objective c: To incorporate into water pollution surveillance and monitoring activities, efforts to obtain chemical analysis of a more in-depth nature and with greater frequency from surface waters used for municipal supply by December 31, 1974.
- Sub-Objective d: To develop and implement a certification program for private laboratories in the provision of chemical water analysis by December 31, 1975.

- Sub-Objective e: To study the various mechanisms through which enforcement of applicable standards, rules, regulations, and laws could be obtained, and to implement the best alternative by July 1, 1975.
 - Sub-Objective f: To inform municipal authorities throughout the State whose public water supplies contain less than optimal fluoride levels of the benefits of addition of fluorides and to have fluoridation of the public water supply in at least five cities by December 31, 1976.
 - Sub-Objective g: To continue and upgrade the training for water plant operators through the use of seminars, newsletters, and personal contact by July 1, 1975.
- Objective 2: To provide or make available to the people of Montana services pertaining to the safe and sanitary supply of water on an individual basis from competent, well-trained public health sanitarians.
- Sub-Objective a: To provide a seminar for local public health sanitarians on all aspects of individual water supplies and development by December 31, 1975.
- Objective 3: To prevent, control and abate water pollution through a comprehensive program of education, surveillance and problem identification, municipal and industrial discharge improvement, plan development for reducing the impact of major non-point sources, and enforcement.
- Sub-Objective a: To make every effort to see that Montana receives additional federal funding for the planning and construction of municipal sewage treatment plants by fiscal year 1975.
 - Sub-Objective b: To have EPA approval and signature of an agreement allowing State takeover of the review of facility plans and specifications and operation and maintenance manuals by December 31, 1974.
 - Sub-Objective c: To have submitted for review 36 municipal sewage facility plans, 20 final plans and specifications, 12 operation and maintenance manuals and to conduct 12 final inspections by July 1, 1976.
 - Sub-Objective d: To provide at least one operation and maintenance inspection of all 150 public sewage treatment facilities by July 1, 1975.
 - Sub-Objective e: To provide training to waste-water treatment plant operators through provision of seminars, newsletters, and video-tape training aids by July 1, 1975.

- Sub-Objective f: To have signed the State's application to administer the National Pollutant Discharge Elimination System (NPDES) permit system, and to issue permits to all substantial dischargers in Montana by December 31, 1974.
- Sub-Objective g: To survey, quantify, and issue permits to the affected confined feed-lot operations in the State by December 31, 1975.
- Sub-Objective h: To obtain best practicable control technology from all industrial dischargers by July 1, 1977.
- Sub-Objective i: To complete initial river basin water quality management plans in the remaining 13 basins by July 1, 1975; and to complete more intensive study of the stream segments where problems are identified, including waste load allocation studies and non-point source control studies by July 1, 1977.
- Sub-Objective j: To establish five additional permanent in-stream water quality monitoring stations by July 1, 1975.
- Sub-Objective k: To initiate and develop the capability for an effective monitoring and surveillance system to insure compliance with NPDES permit system. Eight municipal and 13 industrial dischargers should be monitored as required by July 1, 1976.
- Sub-Objective l: To complete and implement a laboratory improvement effort including the development of precision and accuracy control techniques, data processing and use compatibility, laboratory and field sampling procedures manuals, and provision of additional equipment and instrumentation by December 31, 1975.
- Sub-Objective m: To conduct studies to identify lake eutrophication problems, the causes of the problems and sources of the nutrients, and to determine control technology by July 1, 1976.
- Sub-Objective n: To complete a qualitative biological survey of major streams, and begin quantitative surveys in selected areas by December 31, 1975.
- Sub-Objective o: To provide the United States Congress with a Water Quality Inventory Report by April 15, 1975.
- Sub-Objective p: To identify and designate principal groundwater aquifers in the State, and to continue and expand surveillance efforts of groundwater quality and define problem areas by July 1, 1975.

- Sub-Objective q: To draft and have implemented a groundwater pollution control regulation by July 1, 1976.
- Sub-Objective r: To participate to the maximum extent possible in the legislature-authorized studies of erosion sediment and saline seep control; and to develop (through the use of information from field studies and expert advisory councils of other governmental agencies and private organizations) guidelines outlining possible abatement techniques for non-point source problems such as erosion sediment, saline seep, nutrients, and acid mine drainage by July 1, 1977.
- Sub-Objective s: To provide adequate manpower, facilities, equipment and administrative organization to effectively review and control subdivisions in Montana by July 1, 1975.
- Sub-Objective t: To establish definite and uniform procedures and guidelines for use by Water Quality Bureau personnel in carrying out administrative and judicial enforcement action by July 1, 1975.
- Sub-Objective u: To take enforcement action as required to insure compliance with laws, rules and regulations pertaining to water quality.
- Sub-Objective v: To provide adequate manpower, facilities, equipment, and administrative assistance to the SDHES Water Quality Bureau in order that a comprehensive water quality control program can be continued in future years. This sub-objective is an annual effort.

Objective 4: To provide an educational effort to inform the general population of the need for safe and high quality water, for protection of this valuable resource, and for the need to avoid waste and misuse of water.

- Sub-Objective a: To develop effective training and education packages, with graphic and visual aids and recommend implementation methods, for use in educating the public as to 1) the benefits of public health and community development of provision for a municipal water supply system, 2) the benefits of fluoridation, 3) the need for extensive control efforts to insure protection and preservation of water quality, 4) the need for and benefits of water conservation. This sub-objective should be accomplished by December 31, 1975.

HOUSING

Objective 1: To develop the capability for adequate environmental surveillance and education programs dealing with housing, the residential environment, and related health hazards.

- Sub-Objective a: To conduct a three to five-day seminar on community block survey and socio-economic stratification techniques and on the proper use of survey results and data by July 1, 1975.
 - Sub-Objective b: To conduct community block surveys and socio-economic stratification studies in five Montana communities by July 1, 1976.
 - Sub-Objective c: To have an operating, planned neighborhood improvement program involved with housing health education, neighborhood survey and improvement and having input in planning for the community, in building and housing code advisory councils, and in public housing authorities in three Montana municipalities by December 31, 1976.
 - Sub-Objective d: To provide a health education series related to housing and including the health promotion benefits of sanitation, safety, and planned neighborhoods that control crowding, noise, congestion, and traffic, and that provide for privacy, outdoor recreational area, and opportunities for normal family and community life by July 1, 1977.
- Objective 2: To provide the State Department of Administration, Architecture and Engineer Bureau, with sufficient manpower and budget to implement a program of surveillance, enforcement, and local assistance and promotion.
- Sub-Objective a: To provide adequate funding to the Building Codes and Standards Section, Architect and Engineering Bureau, State Department of Administration to allow initiation of priority efforts.
- Objective 3: To provide a mechanism through which improved housing would be made more readily available to low and middle income families and individuals.
- Sub-Objective a: To assign to a state agency responsibility and authority for housing and for promotion and coordination of local, state, and national program efforts in the provision of housing by July 1, 1975.
 - Sub-Objective b: To establish a fund within the agency proposal in Sub-Objective 3.a which would be used as "seed" money to stimulate housing construction and purchase pending the process of application for and provision of federal funds. This Sub-Objective should be accomplished by July 1, 1975.

Sub-Objective c: To present the proposal for the state providing low-interest loans to supplement available federal funds in stimulating construction and purchase of new housing. This study should be completed by December 31, 1974.

Sub-Objective d: To enact the Uniform Residential Landlord Tenant Act (URLTA) by 1976. URLTA was developed by the National Conference of Commissioners on Uniform State Laws and was adopted in 1972 as a model bill that strikes an objective balance between the rights and obligations of both tenants and landlords. URLTA holds both landlords and tenants accountable in encouraging the maintenance and improvement of rental units.

Sub-Objective e: To repeal the referendum requirement for the establishment of a local housing authority (LHA).

PUBLIC ESTABLISHMENTS AND INSTITUTIONS

Objective 1: To provide an effective environmental health surveillance and control effort over public establishments.

Sub-Objective a: To provide additional funding to the SDH&ES Environmental Services Bureau allowing staff expansion in the public establishment section by one-half man year, and allowing adequate funds for travel, equipment, books and journals, and in-service training by July 1, 1975.

Sub-Objective b: To provide effective consultation services in the public establishment control program, and to provide in-service training to local sanitarians on the problems and control methods used in regulating public establishments by July 1, 1976.

Objective 2: To provide an effective environmental health surveillance and control effort over institutions.

Sub-Objective a: To provide funds to the SDH&ES Environmental Services Bureau allowing for additional manpower and effort expenditure in the area of institutional environmental health control. Adequate funding to provide a one and one-half sanitarian man-years staff increase with funds for travel, office and field equipment, etc., provided by July 1, 1975.

Sub-Objective b: To study and develop a comprehensive set of regulations effectively controlling institutional environments from a public health standpoint by July 1, 1976. If legislative authority is needed to adopt the regulations, this must be undertaken as well.

Sub-Objective c: To provide effective consultation services in the institution control program, and to provide in-service training to local sanitarians on the problems and control methods used in regulating institutions by July 1, 1976.

PRODUCT SAFETY
AND INJURY
CONTROL

Objective 1: To obtain the necessary authority and funding for state involvement and program development in the area of product safety and home injury control.

Sub-Objective a: To authorize state involvement and program development through SDH&ES in product safety and home injury control by July 1, 1975.

Sub-Objective b: To plan, develop and implement a program of federal-state-local cooperation involving environmental health personnel for the provision of control efforts in product safety, hazardous substances, and injury control education by December 31, 1975.

Sub-Objective c: To have operating product safety-injury control programs within four local health agencies by December 31, 1976.

SOLID WASTE

Objective 1: To increase the number of Montana communities with acceptable solid waste management systems. Although progress has been made in recent years, many Montana communities still do not have acceptable procedures and methods for handling their solid wastes.

Sub-Objective a: To conduct 25 training sessions for local political officials, government personnel and citizens by July 1, 1975.

Sub-Objective b: To take enforcement action by December 31, 1974, against at least one community that continues to reject other means of seeking provision of adequate solid waste disposal facilities.

Sub-Objective c: To have established in the state twelve additional refuse disposal districts by July 1, 1976. At least one regional district should be created.

Sub-Objective d: To have approved and operational the plans and programs of all 56 Montana counties for the storage and removal of junk vehicles by July 1, 1975, and to have 70% of the state's backlog of junked vehicles processed and removed for recycling by December 31, 1975.

Sub-Objective e: To implement by July 1, 1975, the licensing and screening provisions pertaining to junk-car graveyards.

Sub-Objective f: To implement the provisions of a hazardous waste regulation by December 31, 1975.

Sub-Objective g: To evaluate and report on the occupational health and safety methods of the state's ten largest cities' collection programs and to provide these cities access to training aids for employee education by December 31, 1975.

Objective 2: To develop source reduction and resource recovery technologies and programs such that increased efforts by citizens and communities are achieved.

Sub-Objective a: To produce and make available to local sanitarians a slide-cassette-tape program on resource recovery and a similar program on source reduction, as well as radio and television public service announcements, and sample newspaper editorial and articles on these topics, by July 1, 1975. To have the slide programs shown to 2,500 Montana citizens, and the public service material aired on radio and television stations, by July 1, 1976.

Sub-Objective b: To evaluate wood hog chip burners in western Montana as a user of rubber tire chips for combustion by December 31, 1974, and to implement a statewide program of collection, storage, and processing of rubber tires, if shown feasible, in conjunction with the junk car program by July 1, 1976.

Sub-Objective c: To study and evaluate markets for re-using paper and paper products, the principal component of municipal solid wastes, by July 1, 1975. To develop mechanisms for paper recycling by institutions, municipalities, and private citizens and businesses by December 31, 1975, if shown feasible.

Sub-Objective d: To work with the city of Great Falls and to research and develop resource recovery markets and separation techniques for milled refuse by July 1, 1975, and to work with the CHP South Central Area-wide on the utilization of milled refuse in land reclamation associated with strip-mining.

Sub-Objective e: To research and develop for a legislative proposal by July 1, 1976, the concept of taxing wholesalers' and manufacturers' gross sales on any product that will eventually enter the solid waste stream. The concept should include state collection of the tax, the generated monies to fund the state program (now faced with cut-backs of federal funding) and to be redistributed to local governments for provision of solid waste management services including collection, transportation, processing, resource recovery, and disposal. District and regional programs could be favored under such a program. The concept and study should additionally investigate the possibility of a higher tax rate for

Sub-Objective e: "excess" waste, non-degradable waste, and hazardous waste in product production and packaging.
(cont.)

OCCUPATIONAL
HEALTH AND
SAFETY

Objective 1: To implement a state effort capable of effective and efficient control of the occupational health and safety aspects of the working-place environment.

Sub-Objective a: To develop a model program for the effective delivery of a thorough Occupational Health and Safety Program by December 31, 1975, and provide this model in the form of a report to the Governor and to the state office dealing in planning and provision of governmental services.

Sub-Objective b: To provide input into all proposals to develop and implement a state OSHA program insuring that environmental health concerns are given proper attention and that the necessary health professionals are involved in the provision of these services. (This task should be completed prior to the date that they are submitted for legislative consideration.)

Sub-Objective c: To have a state OSHA program that corresponds closely to the model developed in Sub-Objective a implemented and adequately funded by July 1, 1976.

Objective 2: To provide the major local health agencies with necessary training in order to enable them to more effectively utilize the workplace as a delivery point for public health services, and to more effectively provide assistance to the state program. (No local health program at present effectively utilizes the workplace as a point of delivery of public health services, nor does any local program have occupational health expertise.)

Sub-Objective a: To establish and adequately fund within the Bureau of Occupational Health, SDH&ES, a position whose responsibility would include provision for consultation and training of local health departments and governments in the area of occupational health, noise and radiation by July 1, 1975.

Sub-Objective b: To provide a three to five day seminar on Occupational Health to health providers, as well as private concerns of the state, by December 31, 1976.

Sub-Objective c: To provide major local health agencies with various educational materials allowing them to develop local programs to inform workers of the health hazards of their working environment and of basic concepts of health promotion by July 1, 1977.

NOISE

Objective 1: To obtain the necessary legislation for the State Department of Health and Environmental Sciences to become involved in noise control and to implement local programs for effective control.

Sub-Objective a: To pass legislation providing for involvement of the State Department of Health and Environmental Sciences' Occupational Health Bureau in community noise control and to include adequate funding for implementation of this program by July 1, 1977.

Sub-Objective b: To plan and implement a program for promotion of local noise control efforts including development of a model ordinance, listing of state supportive services, and public education materials detailing the need for and benefit of local control efforts by July 1, 1978.

Sub-Objective c: To implement seven local noise control programs that meet the recommended outline of the SDH&ES by December 31, 1979.

Objective 2: To develop more expertise among local health personnel on the effects and control of noise. (Local public health officials are poorly informed on this environmental problem and are unable to provide efforts in the areas of public education, advice on control of noise sources or promotion of local control efforts.)

Sub-Objective a: To hold a seminar for local health officials on environmental noise, its effects and control in five Montana localities by December 31, 1975.

Sub-Objective b: To develop an educational package for use by the state and local health personnel that would inform the public of the effects and control of noise (especially on an individual level) by July 1, 1978.

RADIATION

Objective 1: To develop a source control and surveillance program equipped with adequate regulations, personnel, instrumentation, fiscal support, and organization to effectively regulate the use of ionizing and non-ionizing radiation, and to thus protect the people of Montana from unnecessary exposure.

Sub-Objective a: To revise regulations used in implementing the radiation control program by July 1, 1976. This revision should provide compatibility with corresponding federal agency regulations and with those of other states.

Legislation should also address control of non-ionizing sources of radiation such as lasers, microwave, ultrasound, ultraviolet, infrared, etc.

- Sub-Objective b: To revise the rules and regulations pertaining to radiation control such that a comprehensive program can be initiated by July 1, 1977.
 - Sub-Objective c: To finalize and complete signing of the necessary forms for designation of Agreement State status and authority by December 31, 1975.
 - Sub-Objective d: To adequately organize, staff, and equip the radiation control section for effective comprehensive control capability by July 1, 1976. The addition of two Radiation Control Specialists and an adequate budget is needed.
 - Sub-Objective e: To pass legislation requiring the licensing by SDH&ES of radiologic technologists by July 1, 1977.
 - Sub-Objective f: To locate and license users of radioactive materials and sources by December 31, 1976. This process should include an initial evaluation of the users and of materials and sources, as well as the manner in which they are being used to determine compliance with applicable state standards.
- Objective 2: To design and implement an adequate environmental radio surveillance system for the purpose of defining existing background radiation levels as well as determining whether or not industrial emissions from smelters, phosphate plants, and coal and energy development projects are a significant threat to human health and the environment.
- Sub-Objective a: To develop a program plan for an adequate environmental radioanalysis and surveillance system, and to obtain the necessary manpower, equipment, travel and administrative costs as called for in the plan by July 1, 1975.
 - Sub-Objective b: To monitor and determine background levels of radiation in the state and to study in more detail the areas of known or suspected high uranium and thorium deposits, the smelters, the phosphate plants and the coal and energy development projects by December 31, 1976.
 - Sub-Objective c: To establish cooperative working agreements with federal agencies involved in radiation disaster control, in milk, water, vegetation, and soil surveillance networks by July, 1975.
 - Sub-Objective d: To implement an effective data reduction, processing and reporting system for environmental radio surveillance data by December 31, 1975.

Objective 3: To develop educational materials and programs and to provide consultative services on radiation problems to industry, to users of radiation sources and materials and to local health officials and the general public. Among the influential groups which may be instrumental in developing such materials is the Montana Society of Radiologic Technologists.

Sub-Objective a: To distribute to the healing arts practitioners information relative to the health effects of radiation, in order that attention is given to this aspect when decisions regarding specific X-ray examinations or treatment are made. This task should be completed by December 31, 1975.

Sub-Objective b: To study the most effective methods for providing training and continuing education to local healing arts practitioners, to radiologic technologists, and to local public health personnel by December 31, 1977. If Sub-Objective 1.e is accomplished during this period, determination of the specific methods for training requirements and for attainment of these requirements will need to be considered under a radiologic technologist certification regulation.

Sub-Objective c: To develop an information education package to assist local public health personnel in provision of education to the general public. The package should include audio-visual materials, press packet, graphic and written information materials, and suggested educational approaches. They should be developed by July 1, 1976.

PESTICIDES AND VECTOR CONTROL

Objective 1: To develop an effective surveillance program to detect increases in vector populations and outbreaks in vector-borne diseases and to develop an effective operations program to prevent vector-associated epidemics and problems.

Sub-Objective a: To obtain the needed funding to hire, train, and equip a one-half man increase in the SDH&ES Environmental Services Bureau's Vector Control Program by July 1, 1975.

Sub-Objective b: To have created and operational an additional ten Mosquito Abatement Districts in areas of the state where they are needed by December 31, 1976.

Sub-Objective c: To develop a complete audio-visual and graphic program which would explain vectors, diseases, and means of control and which would have use in promoting the formation of Control Districts by July 1, 1975.

- Sub-Objective d: To study and evaluate the various means by which the state could develop a contingency fund which could assist local areas in vector control during near-disaster or emergency situations, and to report a recommended measure for consideration by appropriate authorities by July 1, 1976. The means of providing this type of contingency may already exist, and may only have to be defined and agreed upon, with procedural outlines provided for their use.
- Sub-Objective e: To authorize involvement of personnel and monies of Mosquito Abatement Districts in the control of other vectors by July 1, 1975.
- Objective 2: To reduce the impact of existing and proposed water development programs (principally irrigation projects) as sources of vector production.
- Sub-Objective a: To study and recommend methods of providing health and vector control input in the planning of water development programs by December 31, 1975.
- Sub-Objective b: To study and recommend methods of providing incentives to users of existing water development projects in order that the maintenance and methods of utilization give attention to vector control problems.
- Sub-Objective c: To promote and encourage improvement of return flow systems of existing irrigation systems (on-going effort).
- Objective 3: To develop educational efforts directed at informing urban, suburban, and agricultural users of pesticides of the need for safe, proper methods for handling, storing, using and disposing of pesticides, and of alternative methods of controlling pests.
- Sub-Objective a: To develop informational pamphlets directed at the urban and at the suburban resident; a complete program, with graphic and visual aids and recommended educational procedure, that could be used by local officials in a detailed, planned education effort by July 1, 1976. This type program should be conducted by five local health departments in conjunction with local extension agents by July 1, 1977.
- Sub-Objective b: To provide four training sessions for health professionals on the provision of consumer education (as referred to in the last sub-objective) and on the diagnosis and treatment of pesticide poisoning by December 31, 1976.

Objective 4: To develop an effective surveillance and control program to insure protection of human health and of the air, water, food, and land from damaging pesticide contamination.

Sub-Objective a: To implement a bi-annual meeting arrangement among state agencies involved in pesticide regulation by December 31, 1974.

Sub-Objective b: To study and to identify the roles of the various control agencies in responding to pesticide emergencies by July 1, 1975.

Sub-Objective c: To develop and implement a cooperative effort of the SDH&ES and State Department of Agriculture in increased surveillance of persons involved in pesticide application by July 1, 1975.

Sub-Objective d: To develop the capability (including plan development, federal delegation of authority, regulations, manpower and budget) to take over and implement provisions of the recently passed Federal Pesticide Control legislation by December 31, 1977.

LAND USE

Objective 1: To implement a land use control policy and program in the state of Montana that gives adequate attention to environmental health concerns.

Sub-Objective a: To obtain environmental health input in the development of the land use policy study presently being conducted by the EQC.

Sub-Objective b: To insure that the Governor and the 1975 legislature give full and serious attention to the results of the EQC's land use policy study and that both those components of government understand that the effective application of land use controls can have beneficial effects on health through control of environmental health stresses.

Sub-Objective c: To support the application of the Department of Natural Resources and Conservation-developed resource inventory method of land use planning at both state and local levels by July 1, 1975. The provision of adequate funding to allow DNR&C the resources to promote their resource inventory method of land use planning to local officials through provision of training sessions would do much to allow accomplishment of this sub-objective and should be undertaken. Cooperation in provision of the training sessions should be provided by the Montana Association of Counties.

Objective 1: To prevent, control, and abate air pollution through a comprehensive program of surveillance and problem identification, source emission improvement, plan development for reducing the impact of major indirect sources, and enforcement of effective laws, rules and regulations.

Sub-Objective a: To take every necessary action to negate federal administration amendment proposals to the Clean Air Act that reject non-degradation of high quality air as a function of EPA by December 31, 1974.

Sub-Objective b: To undertake and complete revisions of air quality regulations in order to keep up with the state-of-the-art in air pollution control technology. This sub-objective will be an on-going process throughout this planning period.

Sub-Objective c: To demonstrate in up-coming hearings and judicial proceedings against the non-ferrous smelters, a firm stance in support of the best practicable treatment philosophy for control of air pollution. This sub-objective will be an on-going process throughout this planning period.

Sub-Objective d: To develop and implement an operating permit system as an aid in the control of air pollution sources by July 1, 1975.

Sub-Objective e: To implement and have in full operation the provisions of the aforementioned operating permit system by December 31, 1977.

Sub-Objective f: To provide the SDH&ES Air Quality Bureau with sufficient budget, manpower, equipment, and auxiliary services to effectively administer a maintenance level control effort including at least the following aspects by July 1, 1975:

- 1) new source review (including environmental impact statement development)
- 2) existing source surveillance (including expanded source testing capability)
- 3) special studies and control plan development (for problems such as slash burning, right-of-way burning, agricultural and municipal dust suppression, and natural resources development and energy generation source control, both direct and indirect).

Sub-Objective g: To investigate the various means by which a coordinated state-local effort could be utilized for more effective air pollution control efforts by July 1, 1976.

Sub-Objective h: To implement a cooperative state-local control effort such as described above in four local health agencies by July 1, 1977.

Sub-Objective i: To cooperate in an enforcement proceeding against an open-burning open dump with the SDH&ES Solid Waste Bureau as called for in Sub-Objective l.b of the Solid Waste Section of this report by December 31, 1974.

Objective 2: To provide an effective education, information and public relations effort relating to air pollution, its sources, effects and control.

Sub-Objective a: To develop effective training and education programs with graphic and visual aids and recommended implementation methods by December 31, 1975.

Sub-Objective b: To enlist the support and assistance of local health educators and sanitarians in the provision of this educational effort by December 31, 1975.

Objective 1: To provide a comprehensive food sanitation control effort in the state of Montana.

Sub-Objective a: To conduct the necessary study and to revise the regulations pertaining to food control in order to make them comprehensive, effective, and readily enforceable by July 1, 1975.

Sub-Objective b: To provide an additional four-state sanitarian consultant to the Environmental Services Bureau and to provide proper funding for this food control unit to this Bureau by July 1, 1975.

Sub-Objective c: To conduct routine surveys of local food control efforts by December 31, 1975.

Sub-Objective d: To review current efforts of other states in the nation in food service manager training and certification, and to evaluate the effectiveness of such efforts in upgrading food control efforts in Montana by July 1, 1975.

Objective 2: To provide education and information programs to professional sanitarians, to the personnel of the food industry, and to the general public for the more effective and efficient control of food.

Sub-Objective a: To provide a model training and education program for food industry personnel by July 1, 1975.

Sub-Objective b: To develop a program for public education involving graphic and visual aids and recommended methods,

Sub-Objective b: and demonstrating the health problems associated
(continued) with foods and identifying the Health Department as
the lead agency for reporting illness and complaints

Sub-Objective c: To provide in-service training programs pertaining
to food sanitation control to local sanitarians by
July 1, 1975.

NUTRITION

Objective 1: To develop guidelines for nutritional care in Montana by
January, 1977.

Sub-Objective a: To establish through the Nutrition Unit of the
State Department of Health and Environmental
Sciences guidelines for nutritional care for
Montana citizens.

Objective 2: To investigate the magnitude of nutritional problems in
Montana for the purpose of identifying program priority
nutritional problems by January, 1976.

Sub-Objective a: To identify, through analysis of existing data
statistics and nutrition information, the nutri-
tional status of the state's population with par-
ticular emphasis on the identification of nutri-
tional problems.

Objective 3: To provide the necessary resources to initiate program
plans for the delivery of nutrition services based on the
model developed by the State Department of Health and Envi-
ronmental Sciences' Nutrition Unit by January, 1976.

Sub-Objective a: To initiate a demonstration project for the deliv-
ery of nutrition services based on the model.

p. 220 PROBLEM: Health care services to Montana's off-reservation Indian population
are often not available.

Objective 1: To promote the accessibility of health services to off-
reservation Indians by 1976.

Sub-Objective a: Establish clinics by 1976 in urban communities
that are known to Indian people as places where
services can be obtained. These clinics would be
on a regular or irregular basis depending on uti-
lization and would use existing service centers in
a non-duplicating manner.

Sub-Objective b: Expand urban Indian health outreach programs to
insure as many Indian people as possible will have
a health advocate by 1975.

Sub-Objective c: Develop a transportation system by 1976 that will
allow urban Indians easier access to reservation
health centers.

p. 224 PROBLEM: Existing health-related data are incomplete, fragmented and uncoordinated making empirical assessments of proposed health services and/or facilities impossible.

Objective 1: To coordinate state health data sources into an on-going health data system.

Sub-Objective a: To secure funds to initiate such a data coordination and management function by July 1, 1975.

Sub-Objective b: To create a coordinating committee on health data to guide the above effort by 1976.

p. 226 PROBLEM: The high cost of health care acts as a barrier to receiving medical services.

Objective 1: To support a program for comprehensive national health insurance.

Sub-Objective a: To assist in educating providers and consumers on the advantages of NHI by 1976.

Objective 2: The Hill-Burton free and reduced rate care provisions should continue to be enforced.

Sub-Objective a: Recipients of Hill-Burton funds should be encouraged to develop a uniform strategy for affirmative action in granting free or reduced rate care under Hill-Burton regulations by January, 1975.

Sub-Objective b: Information about the Hill-Burton free care provisions shall be disseminated by September 1, 1974.

Objective 3: To study other state health insurance laws and other state experiences regarding minimum amounts of health insurance and its applicability in Montana.

Sub-Objective a: To expand the funding of the State Deputy Insurance Commissioner's Office to equip it to research the practicality of establishing minimum insurance policy coverage.

Objective 4: To promote the development of regulations requiring improved health insurance policy coverage information and promote increased public awareness of particular aspects of health insurance coverage by 1976.

Sub-Objective a: Promote improved health insurance policy information by 1976.

Sub-Objective b: Develop and distribute a "Shopper's Guide" to health insurance similar to the Pennsylvania guide.

Objective 5: To eliminate costly hospitalization criteria for out-patient services and procedures where possible.

Sub-Objective a: To investigate the reimbursement practice for out-patient surgery, lab, X-ray, etc.; educate third party carriers concerning the cost of existing reimbursement practices; and develop new guidelines for control over out-patient utilization of the above services.

Objective 6: To promote and assist in the establishment of a Health Maintenance Organization in Montana.

Sub-Objective a: To develop funds through application for a feasibility grant under P.L. 93-222 for a survey of HMO applications in Montana with specific recommendations and follow-up by 1976.

Objective 7: To promote and assist in the establishment of hospital-based, short-stay surgical units in urban areas.

Sub-Objective a: To determine economically feasible areas for short-stay units by 1976.

Sub-Objective b: To provide assistance to hospitals in identified areas for development of short-stay units by 1976.

Sub-Objective c: To assist in eliminating legal and reimbursement barriers to the establishment of such units by 1976.

Objective 8: To assist and support the development of a PSRO program in Montana.

Sub-Objective a: To educate Montana providers on the PSRO concept and press for the organization of a PSRO in Montana by 1975.

INTRODUCTION

Since its inception in 1967, the Montana Office of Comprehensive Health Planning has emphasized as a top priority the organization of citizens into bodies which could plan for their health needs. Much has been accomplished by allowing providers and consumers of health services to grapple cooperatively with health problems and their solutions. In addition to satisfying some immediate needs such as obtaining public health nurses or publishing and disseminating health resource manuals, the organizational effort has produced a corps of Montana citizens who are knowledgeable about and experienced in planning.

There is still much to be done--new problems to solve, new persons to involve. Organizational work cannot stop. Planning groups around the State, however, increasingly are expressing the need for a State Plan for Health to serve as a framework for their planning activities. This suggests a maturation among these groups as they move from interest in one-time, specific problems and solutions to an interest in broader, more far-reaching problems and solutions.

In addition to interest among Montana's citizens, the federal government is directing increasing attention to the development of documents which can assist in determining where limited resources should be allocated in order to derive the most benefit.

PURPOSE

The pages which follow represent the first edition of the State Plan for Health. Revisions and additions will be made periodically to produce subsequent editions of the Plan.

The purpose of this year's Plan is to identify priority problems which beset Montana's health care system and to present a short-range (1-3 years) strategy for alleviating these problems to the greatest extent possible within this time frame. Future editions will present a long-range (3 years+) strategy for attacking health problems in Montana.

USES

It is anticipated that the Plan will be used in three major ways:

1. One of the most important uses of the Plan will be to provide a rational basis for decision making in health matters. It will be the document to which decision makers both in and outside of the CHP organization will refer when faced with options concerning alternatives such as the type of legislation needed to meet the health manpower requirements of the State or which of two facilities' proposals would better benefit an area. To assist in this task, the Plan contains standards and guidelines for facilities, manpower, and services. The standards have been gleaned from all identifiable sources. In most cases it is foreseen that these will suffice until their application suggests necessary alterations. Emphasis has been given to the inclusion of standards which will enable CHP to fulfill its review and comment responsibilities.

2. The document will provide a rallying point for organizational efforts to effect changes in Montana's health scene. The implementation strategies show means by which changes can take place.

3. Another use for the Plan will necessarily be educational. It makes little sense to suggest that more home health agencies be established, for example, if people do not know what home health services are or how one can benefit from them. For this reason some statements regarding such things as new health manpower categories or new ways of delivering health services are given considerable explanation.

AUTHORITY

In 1966, Congress passed Public Law 89-749 authorizing formula grants to states for comprehensive health planning and providing for the designation of a single state agency to administer the planning process.

In 1969, the Montana Legislature amended Chapter 41, Title 69, of the Revised Codes of Montana, 1947, to include a new section establishing the State Department of Health as the sole and official State agency to administer the State program for comprehensive planning and to prepare a plan for comprehensive State health planning. The Division of Comprehensive Health Planning was created within the State Department of Health and Environmental Sciences to carry out this responsibility.

The Montana State Plan for Health is based upon guarantees contained in the Constitution of the State of Montana and assumptions contained in the CHP Advisory Council Statement on Planning Philosophy. The purpose of presenting these materials here is to establish a mutually acceptable and understandable foundation for the use of the Plan. Furthermore, with the increased interest at federal, state, and local levels in allocating scarce resources in a most beneficial manner it is anticipated that these premises should serve as a basis for preconsideration of proposed health projects before review and approval of such projects takes place.

From the State Constitution:

Article II.

Section 3. Inalienable Rights. All persons are born free and have certain inalienable rights. They include the right to a clean and healthful environment and the rights of pursuing life's basic necessities, enjoying and defending their lives and liberties, acquiring, possessing and protecting property, and seeking their safety, health and happiness in all lawful ways. In enjoying these rights, all persons recognize corresponding responsibilities.

Section 8. Right of Participation. The public has the right to expect governmental agencies to afford such reasonable opportunity for citizen participation in the operation of the agencies prior to the final decision as may be provided by law.

Section 9. Right to Know. No person shall be deprived of the right to examine documents or to observe the deliberations of all public bodies or agencies of state government and its subdivisions, except in cases in which the demand of individual privacy clearly exceeds the merits of public disclosure.

From CHP Advisory Council Statement on Planning Philosophy:

1. Good health should be considered a basic right of all individuals.
2. Citizen involvement in the development and implementation of plans to alleviate citizen problems will result in plans more appropriate to the dimensions of those problems than will plans without such involvement.
3. Plans and activities of a preventive nature, which are directed toward improving the health of all, represent a better investment of resources than do crisis plans and activities.
4. Health problems may better be attacked by consideration of all variables involved rather than only those posed by traditional frames of reference--e.g. a health manpower problem conceivably could be resolved through a change in environmental conditions. In short--health is a function of the interaction of many variables.
5. The health care delivery system exists for the benefit of those served, is financed by those served, and should be accountable to those served.
6. Plans and activities which attempt to provide the most benefit for the least cost, represent a better investment of resources than do those which have not examined these factors.

CONTENTS

The Plan which follows addresses problems identified by CHP's constituency of health care providers and consumers. The problems fall most often in the area of deficiencies in the health delivery system. This approach complies with the posture taken by Montana CHP that Montana's citizenry is the best source for determination of problems and avenues to alleviate these problems. This stance is not the only one available to a CHP agency in its daily work and plan production.

There are two broad areas which can be addressed in a health plan. One area is Health Status which examines the health of the people in terms of specific diseases, death rates, dysfunction due to impairment of health, etc. The other area is the Health Delivery System which examines the effectiveness and efficiency of the delivery of health care services in terms of availability, accessibility, cost, etc. Again, to determine key concerns in these areas there are two methods. First, a statistical analysis can be relied upon. Second, perceived needs can be utilized.

As suggested above, this Plan starts with perceived needs. The needs identified have been concentrated in the area of problems with the health delivery system. Statistics have been used as a source of documentation to assure that the perceived needs are verifiable.

The short-range plan addresses ways in which the present health delivery system should be enhanced in order to better serve the needs of Montana's citizens. For example, more provision of service "a" and less of service "b" might be proposed. It does not address broad systemic changes. Such changes

take more time to formulate and generally take more time to implement. Therefore, they will be included in the long-range (3+ years) plan to be developed in subsequent years, starting after July, 1974.

Both the short and long-range plans will be dynamic. They will be continually changing and evolving, rather than static.

AREAWIDE HEALTH PLANS

There are five areawide CHP organizations blanketing Montana. Each of these is beginning to develop a health plan with projected dates of completion falling from September, 1974, to September, 1975. These plans will form separate chapters to the State Plan.

It is anticipated that the areawide plans will contain material which is more specific and local in nature than the State Plan. It is not expected that the areawide plans will disagree with the State Plan but rather that the different portions of the State Plan will be of varying relevance for the different areawides. For example, the facilities portion of the State Plan advocates shared services between hospitals. If this has already been accomplished in one area, another effort might receive a higher priority in that area.

If conflicts should develop, the State and areawide staffs will convene to arrive at some consensus about the issues. Since the State Plan is subject to periodic review and revision, it will be an easy matter to incorporate the changes desired by the areawides.

DISSEM- INATION

Copies of the completed Plan are to be sent to the Governor and other key decision makers in Montana with the hope that they will use the Plan in making health policy decisions. In addition, copies are to be housed in at least one library in each county in Montana (See Appendix A).

Other groups which are to receive copies of the Plan are the Statewide CHP Advisory Council and committee members and the CHP areawide organizations.

All persons who served as resources in developing sections of the Plan are to receive the portions of the Plan to which they contributed.

Finally, a "popularized version" of the Plan is being prepared which will summarize the Problems, Objectives, Sub-Objectives, and Implementation Statements. These versions will be sent to all groups called upon to implement portions of the Plan and will be available to anyone else requesting them.

LIMITATIONS

Some indication has been given above of what this edition of the Plan is, and from this information some idea should be gained of what this edition of the Plan is not. However, there are additional limitations to this edition of the Plan.

First, while the Plan's approach is comprehensive, the definition of "comprehensive" which applies is the second one given by Webster ("having wide mental comprehension") rather than the first ("covering completely"). It would be impossible in this or any future edition of the Plan to cover completely the innumerable facets of health and health care in Montana. The effort here has been to view Montana's health scene as widely as possible, yet ultimately confining the concerns to priority issues identified by CHP's constituency.

Second, the nature of the subject matter dealt with in the Plan does not lend itself readily to mathematical calculations or formulas. Therefore, while no statement made in the Plan could be disputed statistically, not all statements are statistically verifiable.

Third, perhaps the greatest limitation of the Plan is its boundaries. A document can neither alter a people's will to health (or lack of it) nor aspects of people's lifestyles which impinge upon health. Interventions to enhance the health delivery system matter little if lifestyles and a lack of a will to health militate against health. (See Appendix B for article, "Boundaries of Health Care" for further discussion of this point.)

PLAN DEVELOPMENT

Initial determinations relative to development of the Plan were made by CHP staff and were as follows:

1. Every possible attempt should be made to involve the broadest spectrum of interested Montana citizens in producing the Plan.
2. This short-range Plan should focus on identifying health problems felt to be most pressing by CHP's constituency and delineating steps to alleviate these problems.
3. Responsibilities should be clearly defined and understood by all involved in developing the Plan.
4. Flexibility should be maintained in developing the several sections of the Plan so that the parties involved could proceed in manners most appropriate and comfortable for them.

In order to accomplish these directives the following steps were taken:

1. Responsibilities were outlined.
 - A. Staff - devise methodology, collect data, write Plan.
 - B. State Comprehensive Health Planning Advisory Council Committees on Environment, Facilities, Health Manpower, Personal Health Services - serve as working groups to provide direction to staff members as they write parts of the Plan particularly with respect to problem identification and implementation strategies.
 - C. State Comprehensive Health Planning Advisory Council Areawide Committee - serve as review and comment body for all parts of the Plan.
 - D. State Comprehensive Health Planning Advisory Council - serve as approval body for total Plan.
 - E. Department of Health and Environmental Sciences staff - serve as resources for sections of the Plan which involve subject matter pertinent to them.
 - F. Interested Montana citizens - serve as resources for sections of the Plan which involve subject matter of concern to them.
 - G. Consultants - write technical portions of the Plan.
2. A chart, "Responsibilities for Developing Montana State Plan for Health,"* was prepared and presented to the Areawide Committee and the State Comprehensive Health Planning Advisory Council.

*All documents referred to in the Plan Development section are on file with the Division of Comprehensive Health Planning.

3. A list* of more than seventeen hundred individuals and groups thought to be concerned about health matters was compiled and letters were sent to them asking whether they would serve as resources for the Plan and, if so, in what areas. Drafts of Plan sections were submitted to the respondents for review and comment, and their remarks were incorporated in the draft prepared for submission to the Areawide Committee.
4. An outline of Plan contents was prepared calling for Goals, Objectives, Sub-Objectives and Implementation Statements. This material was presented to the Advisory Council in an overhead projector presentation and was contained in a pamphlet for staff use entitled "Staff Handbook--State Plan for Health Methodology."
5. A calendar for Plan production was prepared and submitted to the Advisory Council.
6. A suggested meeting procedure was developed and submitted to the working committees to use if they so desired. A document entitled "Meeting Procedures to be Followed During the Development of the State Health Plan" contained this information. Two committees adopted the procedure and the other two developed other procedures which they felt to be more applicable to their content areas and the way committee members prefer to work.
7. Staff members of the Bureaus and Divisions of the State Department of Health and Environmental Sciences were contacted as problems were identified in their areas.
8. Consultants were engaged to prepare sections of the Plan regarding A) Montana's Health Status, B) Health and Economics, and C) Technical Aspects of the Environmental Portion of the Plan.

*Because of the uniqueness and importance of the process to the development of the Plan, more information on it is contained in Appendix C.

PLAN FORMAT

The State Plan for Health contains nine overall goals for health care in Montana (see following page). A goal is defined here as a broad statement of the desired condition to be achieved after all major problems have been solved.

Since all problems cannot be attacked at once, as indicated in the introduction, priority problems were identified by committees of CHP's Advisory Council. Objectives were developed to address these problems. An objective is defined here as a component of a goal selected for action in order to bring closer the attainment of the goal.

Since each objective provides one avenue toward the realization of one or more of the goals, a list is given in Appendix D of which objectives relate to which goals.

Each objective is further broken down into measurable sub-objectives. The aim was to devise approaches to the objectives which could be accomplished within three years. Each sub-objective contains an implementation statement which identifies who should have responsibility for carrying out the sub-objective and suggests a strategy for implementation.

GOALS

1. A system which assures that all levels of health care are accessible to all Montana citizens.
2. A system for allocating health care resources which prevents unnecessary and costly duplication and provides services where needed.
3. A system which places strong emphasis on preventive health services.
4. A system for financing health care which assures that no one will be denied services.
5. The highest quality of health care.
6. A system of health planning which assures participation by all sectors of the population affected by it.
7. A social environment which is conducive to physical and mental health.
8. A physical environment which is conducive to health and safety.
9. A system for coordinating health expenditures which effectively encourages cost containment.

The health planning process draws on many resources. The perceptions of individuals as to their own health needs and the professional judgement of health and planning personnel and public representatives provide crucial guidance in developing the Plan. These kinds of "subjective" judgements outline the parameters for comprehensive goal-setting in the Plan. "Objective" materials are also important in the planning process. Statistical measures provide evidence of the existing condition of the Plan's client--the population for whom the Plan is written. Attention to the demographic dimensions of the client population, as well as to more direct measure of their health, such as mortality and disability, can alert the planner to several important things. Certain "trouble spots" in the population, either in a spatial sense or in terms of particular segments of the population, can become visible. For example, the population of a county or region may appear to have a relatively high mortality rate, or infant death rate. Such evidence will alert the planner to health needs of the population which otherwise may be undetected. Analysis of differences between the client population and another "standard" population will alert the planner to the need for further study of those areas where his client population seems relatively deficient. For example, if the death rate of his client population is relatively higher than that of adjacent populations, the planner will want to discover the reason so that he can design a method of intervention to remedy the problem.

There are two major difficulties in performing "objective" analyses in health planning. The first is the difficulty of choosing the most relevant or utilitarian data out of the tremendous mass of statistical information available. The second difficulty, closely related to the first, is determining relationships between the data presented and a measure of health needs or health status. There is no standard formula for relating socioeconomic and demographic information to health. Although sophisticated statistical analysis may produce apparently significant correlations between socioeconomic factors and evidence of specific health needs or problems (infant mortality, incidence of specific diseases), causal relationships are not clear. At this point, the planner must apply "subjective" or intuitive judgement to the objective information before him. Some intuitive judgements may seem so obvious as to deny the need for statistical verification. For example, a relationship between a relatively aged population and a relatively high demand for personal health services appears to need no repeated verification. The same is true of the correlation between a population with a high proportion of women of child-bearing age and a relatively high demand for obstetrical services. However, the factors which influence demand for health services are so varied, and interrelationships among them are so complex, that even apparently clear linkages of cause and effect may need detailed analysis. In many cases, intuition combined with additional information about a client population will clarify causal relationships. For example, knowledge of the occurrence of an especially severe natural disaster will explain an abnormally high death rate due to accidents for a particular year in a particular place.

A third factor which may limit utility and acceptance of objective information is doubt about the validity of the raw statistics themselves.

*At the request of the Intermountain Regional Medical Program, we are acknowledging the assistance of Sharon Rothmel, Health Planner, IRMP, in preparing this Chapter.

Even the census, accepted as the best source of much demographic information, is known to undercount certain population groups. In addition, many data sets in the census are based on samples, rather than 100% coverage, and are thus thought by some to be less than precise and real. There is also a problem inherent in the self-administered questionnaire technique used by the census in that the recall of the respondent may be faulty or incomplete. These problems are overcome in a sense by the recognition that relationships within data sets based on census data, at least, will be constant. The relative error or unreliability of data within each set will be equal. Despite these factors, unless special surveys are undertaken for each population for which planning is to take place, census data and data derived from similar large-scale studies are commonly accepted as reliable planning foundations for broad health planning purposes.

Montana Vital Statistics is published annually by the Bureau of Records and Statistics in the Department of Health and Environmental Sciences. Montana Vital Statistics contains information on births, deaths and morbidity in the State.

Health planners collect and analyze health statistics in order to determine what changes need to be made in the health delivery system to bring about an improvement in the health status of a population. Connections have to be made between health statistics and the health delivery system. Without using death rates and other health status indicators as a basis for changing the amount or types of health resources in areas where it is needed, there is little point in quoting the health statistics.

OBJECTIVE 1: To coordinate State health data sources into an on-going health data system (See Economics and Health Care Section).

Sub-Objective a: To analyze the connection between health statistics and the health delivery system, and make recommendations as to how the system can contribute more efficiently to a rise in health status.

Implementation: The analysis will be conducted by staff of the Division of Comprehensive Health Planning.

The Bureau of Records and Statistics in the Department of Health and Environmental Sciences is devising a method to compare the health status of a population in a given geographic area with those of other areas. This is being done by selecting twelve variables which serve as health status indicators.

In an attempt to minimize the problem of small numbers for counties with small populations, data for 11 of the 12 variables have been collected for the five-year period, 1968-72. Data for the 12th variable, age-adjusted death rates, are shown for the three-year period 1969-71. The variables are as follows:

1. Infant death rates
2. Neonatal death rates
3. Postneonatal death rates
4. Accidental fatality rates for motor vehicle deaths
5. Accidental fatality rates for accidents other than motor vehicle
6. Low birth weight rates
7. Age-adjusted death rates
8. Combined suicide-homicide death rates
9. Uterine cancer death rates
10. Fetal death ratios
11. Liver cirrhosis death rates
12. Lung cancer death rates

Variables were selected for which relatively good objective data are available. For those indicators where deaths from specific causes are used, causes were selected for which unequivocal reporting can be expected. To illustrate: Deaths from influenza were not used because past experience shows that such deaths may be reported as: 1) influenza, 2) pneumonia (which resulted from the influenza), 3) a chronic condition which the deceased had, but which would have not caused his death at the time it did without the additional insult of the influenza. The variables chosen describe conditions which are subject to amelioration by improving health, public health, or mental health care.

Each indicator has a weight of "1". It may be argued that since infant death rates are considered to be a more meaningful index of health status than are deaths from cirrhosis of the liver, that infant deaths should be given additional weight. This is accomplished by utilizing

three measures of infant death; that is, infant death rates themselves, neonatal death rates and postneonatal death rates.

An examination of the health status indicator ranks yields some interesting results. The county with the best overall record is Golden Valley. For the period for which these ranks were compiled, Golden Valley County had no public health nurse, no sanitarian, no physician and no hospital, not to mention the other kinds of ancillary health care services that are available in larger counties.

Several possible explanations for this apparent inconsistency exist. First of all, persons in Golden Valley County are obviously obtaining health care in other areas since none exists in that county. Given the present limited populations of some Montana counties, the provision of health care on a county basis is obviously unrealistic. Based on these health status ranks, it would appear that the unavailability of certain aspects of health care on a county basis is inconsequential. A second possible explanation for this favorable rank is that of small numbers. Despite the fact that we have gathered information on 11 variables for a five-year period and one variable for a three-year period, it is possible for a county with a small population to "luck out" and have low rates for all of the variables selected as health status indicators. For deaths from a specific cause (for example, lung cancer), a county with a small population will either have a rate of zero if there were no deaths from that cause during the five-year period or a relatively high rate if there was even one death from this cause during the period.

The following quartile map aids in the geographic analysis of these rankings. Counties in the low quartile are those with low indicators, such as low death rates. Counties in the high quartile are counties with higher death rates for the selected variables. Note that there are several counties with small populations other than Golden Valley in the low quartile; namely, Petroleum, Garfield, Carter, and Wibaux. Five of the counties in the low quartile are situated close to the North Dakota border. No county in the low quartile lies west of the Continental Divide. Counties with 9,000 or more population in the low quartile are: Dawson, Gallatin, Hill, Richland, and Yellowstone. Counties of 9,000 or more population in the high quartile are: Big Horn, Deer Lodge, Glacier, Silver Bow, and Roosevelt. There is a marked clustering of counties in the high quartile in the southwestern corner of the State. These are: Beaverhead, Deer Lodge, Granite, Jefferson, Powell and Silver Bow. Several counties with substantial Indian populations are also in the high quartile; namely, Big Horn, Blaine, Glacier, and Roosevelt. Rosebud County ranks 42, just below the high quartile.

The following pages describe the State of Montana, its five administrative regions, and its counties in objective terms. The data presented are derived in the main from the 1970 census. The source of vital statistics in this chapter is the Montana State Department of Health and Environmental Sciences, Bureau of Records and Statistics. In order to gauge Montana's "condition" in relation to its neighbor Mountain States and the standard of the United States as a whole, some data is given for each Mountain State and the United States. No finite value is attached here

QUARTILE MAP SHOWING HEALTH STATUS INDICATOR RANKS FOR MONTANA COUNTIES

[illegible]

---	1	-	14	LOW QUARTILE
***	15	-	28	MEDIUM LOW QUARTILE
***	29	-	42	MEDIUM HIGH QUARTILE
***	43	-	56	HIGH QUARTILE

to the United States average figures in any category; they are merely an easily obtainable yardstick against which to measure the Montana population. The final test of Montana's health must be each citizen's satisfaction with his own condition.

Additional demographic data can be found in Montana County Profiles, available from the Division of Comprehensive Health Planning, Department of Health and Environmental Sciences.

Table 1*

Table 1 shows population change during the decade 1960-1970 by regions and counties in Montana and for the State as a whole. A change in population size may indicate a change in demand for health services. It is evident from the table that the Eastern Region and the Northwestern Region have had the greatest proportional change of population of all regions in the State in the decade. The Eastern Region has declined in population by 12.8%, while the Northwestern Region has increased by 23.2%. Of all the counties in the State, Lincoln and Valley show the greatest proportional change in population size: the population of Lincoln County, in the Northwestern Region, has grown by 44.1%, while the population of Valley County, in the Eastern Region, has declined by 32.8% in the decade. The State as a whole showed an increase in population of 2.9% during that time.

A rapidly increasing population creates special problems in environmental health, especially subdivision, water, sewage and solid waste control, and increases demands for school health and maternal and child health public health nursing services. Conversely, a decreasing population usually indicates that only the aged are remaining and the area will have difficulty attracting young health service personnel; in the private sector, therefore, there is greater demand for Home Health Nursing Services.

Montana has increased in population by the smallest percentage (+2.9%) as compared to the other Mountain States, and to the United States (+13.3%), during the ten years. Nevada shows the greatest proportion of change (+71.6%) during the decade. The actual populations of Nevada and Wyoming were smaller than that of Montana in 1970, however.

Approximately 58,000 people moved out of Montana during the decade. The greater number of births than deaths over the decade accounted for the modest net increase of population in the State by 1970. All the Mountain States except Colorado, Arizona and Nevada experienced out-migration of population during the decade.

*Data from North Dakota and South Dakota will be included in future additions to the State Plan for Health.

TABLE I
Population Change: 1960-1970
Montana Counties by Regions

Region/State	Population 1960	Population 1970	% Change in Population 1960-1970
<u>Northwestern</u>	125,527	154,691	+ 23.2%
Flathead	32,965	39,460	+ 19.7%
Lake	13,104	14,445	+ 10.2%
Lincoln	12,537	18,063	+ 44.1%
Mineral	3,037	2,958	- 2.6%
Missoula	44,663	58,263	+ 30.5%
Ravalli	12,341	14,409	+ 16.8%
Sanders	6,880	7,093	+ 3.1%
<u>Southwestern</u>	164,451	167,100	+ 1.6%
Beaverhead	7,194	8,187	+ 13.8%
Broadwater	2,804	2,526	- 9.9%
Deer Lodge	18,640	15,652	- 16.0%
Gallatin	26,045	32,505	+ 24.8%
Granite	3,014	2,737	- 9.2%
Jefferson	4,297	5,238	+ 21.9%
Lewis & Clark	28,006	33,281	+ 18.8%
Madison	5,211	5,014	- 3.8%
Meagher	2,616	2,122	- 18.9%
Park	13,168	11,197	- 14.8%
Powell	7,002	6,660	- 4.9%
Silver Bow	46,454	41,981	- 9.6%
<u>North Central</u>	144,551	144,070	- 0.3%
Blaine	8,091	6,727	- 16.9%
Cascade	73,418	81,804	+ 11.4%
Chouteau	7,348	6,473	- 11.9%
Glacier	11,565	10,783	- 5.8%
Hill	18,653	17,358	- 6.9%
Liberty	2,624	2,359	- 10.1%
Pondera	7,653	6,611	- 13.6%
Teton	7,295	6,116	- 16.2%
Toole	7,904	7,839	- 26.1%
<u>South Central</u>	133,270	135,263	+ 1.5%
Big Horn	10,007	10,057	+ 0.5%
Carbon	8,317	7,080	- 14.9%
Fergus	14,018	12,611	- 10.0%

TABLE I
(cont.)

Region/State	Population 1960	Population 1970	% Change in Population 1960-1970
Golden Valley	1,203	931	- 22.6%
Judith Basin	3,085	2,667	- 13.5%
Musselshell	4,888	3,734	- 23.6%
Petroleum	894	637	- 24.5%
Stillwater	5,526	4,632	- 16.2%
Sweet Grass	3,290	2,980	- 9.4%
Wheatland	3,026	2,529	- 16.4%
Yellowstone	79,016	87,367	+ 10.6%
<i>Eastern</i>	106,921	93,221	- 12.8%
Carter	2,493	1,956	- 21.5%
Custer	13,227	12,174	- 8.0%
Daniels	3,755	3,083	- 17.9%
Dawson	12,314	11,269	- 8.5%
Fallon	3,997	4,050	+ 1.3%
Garfield	1,981	1,796	- 9.3%
McCone	3,321	2,875	- 13.4%
Phillips	6,027	5,386	- 10.6%
Powder River	2,485	2,862	+ 15.2%
Prairie	2,318	1,752	- 24.4%
Richland	10,504	9,837	- 6.3%
Roosevelt	11,731	10,365	- 11.6%
Rosebud	6,187	6,032	- 2.5%
Sheridan	6,458	5,779	- 10.5%
Treasure	1,345	1,069	- 20.5%
Valley	17,080	11,471	- 32.8%
Wibaux	1,698	1,465	- 13.7%
Montana	674,767	694,409	+ 2.9%
Idaho	667,000	713,000	+ 6.9
Wyoming	330,000	332,000	+ 0.6
Colorado	1,754,000	2,207,000	+ 25.8
New Mexico	951,000	1,016,000	+ 6.8
Arizona	1,302,000	1,771,000	+ 36.0
Utah	891,000	1,059,000	+ 18.9
Nevada	285,00	489,000	+ 71.6
United States	179,323,000	203,212,000	+ 13.3

Table 11

Table 11 shows the percent distribution of Montana's population in three age groups, by counties, for 1960 and 1970. An increase in population of one age group, whether elderly or children, may indicate a changed demand for health services in a population, or may indicate an increased or decreased need for services of a specialized kind. In the State as a whole, the figures show that the proportion of the State's population age 65 and older increased slightly over the decade (from 9.6% to 9.9% of the total population). The proportion of population in each of the other two age groups (age 0-19 and age 20-64) decreased slightly. Of all the counties in the State, Carbon County, in the South Central Region, in 1970, had the highest proportion of population age 65 and older (17.3%). In fact, of the eleven counties in the South Central Region, eight in 1970 had a higher proportion of elderly population than the overall State proportion of 9.9%. The situation in the Southwestern Region was similar; there only four counties out of twelve had a proportion of elderly population at or below the proportion in the State as a whole. Carbon County, in the South Central Region, in 1970 had the lowest proportion of children of all the counties in the State. Only 33.2% of the Carbon County population was age 0-19 in 1970, while the proportion of State population in that age group was 40.0%. Only two counties of the eleven in the South Central Region had a proportion of children to total population higher than that in the State as a whole. In the Southwestern Region, only Jefferson County had a higher proportion of children than that in the State as a whole.

TABLE II
Age Distribution by Percent of Total: 1960-1970
Montana Counties by Regions

Region/County	Total Population		Age 0-19		Age 20-64		Age 65+	
	1960	1970	1960	1970	1960	1970	1960	1970
<i><u>Northwestern</u></i>								
Flathead	32,965	39,460	40.6	41.1	48.0	47.6	11.4	10.4
Lake	13,104	14,445	40.9	39.8	45.8	56.7	13.4	13.5
Lincoln	12,537	18,063	44.2	43.7	48.5	50.7	7.3	5.5
Mineral	3,037	2,958	43.9	42.3	48.7	49.7	7.3	7.9
Missoula	44,663	58,263	40.4	39.2	50.4	52.9	9.2	7.7
Ravalli	12,341	14,409	38.3	37.9	47.1	47.0	14.6	14.9
Sanders	6,880	7,093	38.3	37.8	48.5	48.7	13.3	13.4
<i><u>Southwestern</u></i>								
Beaverhead	7,194	8,187	35.9	38.4	52.5	51.0	11.5	10.4
Broadwater	2,804	2,526	41.6	39.3	46.9	47.9	11.5	12.6
Deer Lodge	18,640	15,652	38.4	37.1	51.5	50.8	10.0	11.9
Gallatin	26,045	32,505	40.4	38.7	50.8	53.0	8.9	8.0
Granite	3,014	2,737	39.0	36.6	50.2	52.3	10.8	11.0
Jefferson	4,297	5,238	39.5	40.6	50.8	50.4	9.8	8.8
Lewis & Clark	28,006	33,281	39.1	39.7	50.6	50.3	10.3	9.9
Madison	5,211	5,014	37.7	36.9	48.9	48.4	13.4	14.4
Meagher	2,616	2,122	37.7	36.2	51.3	52.4	11.0	11.2
Park	13,168	11,197	37.5	34.6	50.7	50.5	11.8	14.7
Powell	7,002	6,660	35.7	37.8	54.5	52.1	9.8	9.9
Silver Bow	46,454	41,981	38.4	38.8	50.7	49.2	11.0	11.8
<i><u>North Central</u></i>								
Blaine	8,091	6,727	45.1	42.8	44.2	45.8	10.6	11.3
Cascade	73,418	81,804	41.2	40.7	51.1	51.3	7.7	7.9
Chouteau	7,348	6,473	42.6	39.5	46.8	49.0	10.6	11.3
Glacier	11,565	10,783	46.5	46.7	47.6	45.7	5.9	7.6
Hill	18,653	17,358	44.5	42.1	43.3	49.4	8.2	8.4
Liberty	2,624	2,359	44.4	43.1	49.3	49.0	6.2	7.8
Pondera	7,653	6,611	45.1	42.1	46.5	57.7	8.4	10.1
Teton	7,295	6,116	42.1	38.1	48.0	49.3	10.0	12.5
Toole	7,904	5,839	43.8	40.3	48.4	49.6	7.8	10.1
<i><u>South Central</u></i>								
Big Horn	10,007	10,056	46.6	45.2	46.0	47.7	7.4	6.8
Carbon	8,317	7,080	37.2	33.2	47.8	49.2	15.0	17.3
Fergus	14,018	12,611	40.1	38.5	46.3	46.8	13.6	14.6
Golden Valley	1,203	931	39.6	34.6	45.9	49.6	14.6	15.5
Judith Basin	3,085	2,667	40.9	37.5	48.6	48.9	10.5	13.6
Musselshell	4,888	3,734	38.7	34.8	47.0	48.8	14.3	16.2

TABLE 11
(cont.)

Region/County	Total Population		Age 0-19		Age 20-64		Age 65+	
	1960	1970	1960	1970	1960	1970	1960	1970
Petroleum	894	675	37.6	36.8	51.3	56.1	11.1	7.0
Stillwater	5,526	4,632	39.5	35.1	48.5	49.9	11.9	14.7
Sweet Grass	3,290	2,980	36.4	33.3	48.5	50.0	14.8	16.5
Wheatland	3,026	2,529	38.1	36.8	48.4	49.7	13.4	13.3
Yellowstone	79,016	87,367	42.3	40.3	50.3	51.5	7.3	8.0
<i>Eastern</i>								
Carter	2,493	1,965	40.7	35.6	49.1	50.6	10.3	13.6
Custer	13,227	12,174	40.1	40.0	48.1	47.1	11.8	12.7
Daniels	3,755	3,083	41.1	36.9	47.5	48.4	11.5	14.5
Dawson	12,314	11,269	45.5	43.7	47.1	47.3	7.4	8.8
Fallon	3,997	4,050	43.8	42.7	47.3	48.3	8.9	8.8
Garfield	1,981	1,796	41.8	29.3	47.2	51.4	11.1	9.1
McCone	3,321	2,875	43.9	41.6	46.3	48.2	9.6	9.1
Phillips	6,027	5,386	40.8	40.3	46.0	46.1	13.2	13.3
Powder River	2,485	2,862	41.6	43.2	48.7	48.8	9.7	7.8
Prairie	2,318	1,752	42.2	34.0	46.7	52.1	11.1	13.6
Richland	10,504	9,837	43.7	41.0	45.7	48.4	10.6	10.4
Roosevelt	11,731	10,365	46.9	44.6	43.7	45.7	9.4	9.5
Rosebud	6,187	6,032	43.7	42.3	45.9	47.4	10.4	10.1
Sheridan	6,458	5,779	41.4	39.1	46.5	49.0	12.1	11.6
Treasure	1,345	1,069	44.9	39.9	46.1	49.4	9.0	10.5
Valley	17,080	11,471	44.1	43.3	49.4	47.8	6.5	8.6
Wibaux	1,698	1,465	43.1	41.2	45.6	46.3	11.3	12.2
Montana	674,767	694,490	42.9	40.0	41.1	48.1	9.6	9.9

Table III

Table III shows the age distribution of the population of the Mountain States and of the United States as a whole in 1970 for three major age groups. Montana and Idaho in 1970 had the highest proportion of population age 65 and older of the Mountain States (10.0%); that proportion was the same as that of the United States as a whole, however. The median age of the population of each Mountain State was lower in 1970 than the median age in the United States as a whole (28.1%).

TABLE III
Age Distribution and Median Age: 1970
Mountain States and United States

State	Total Population	Population Age 0-20		Population Age 21-64		Population Age 65+		Medi Ag
		Number	% of Total	Number	% of Total	Number	% of Total	
Montana	694	289	42	336	48	69	10	27.
Idaho	712	302	42	342	48	68	10	26.
Wyoming	331	137	41	164	50	30	9	27.
Colorado	2,206	905	41	1,113	50	188	9	26.
New Mexico	1,016	461	45	484	48	71	7	23.
Arizona	1,770	740	42	869	49	161	9	26.
Utah	1,060	489	46	493	47	78	7	23.
Nevada	491	193	39	267	54	31	6	27.
United States	203,211	80,460	40	102,685	51	20,066	10	28

¹In thousands, rounded to nearest 1,000.

Table IV

Table IV summarizes certain social characteristics of the populations of Montana counties, by regions, in 1970. These characteristics are also shown for the State as a whole.

Columns showing social characteristics especially pertinent to health planning are those which summarize: percent rural non-farm; percent rural farm; persons 25 years and over - median school years completed; families - percent with own children under 6 years; women 35-44 years - cumulative fertility rate. The last two characteristics tell about the presence of children and the extent of child-bearing, characteristics which indicate an increased need for health care services in a population. Median school years completed frequently shows a negative correlation with family size - that is, the higher the level of education of the parents, the smaller the family. In addition, median school years completed can be an indicator of the degree to which health services will be sought or utilized, both during periods of ill health and for purposes of prevention. Summaries of rural farm and rural non-farm populations can be important indicators of the accessibility of medical care to the rural portion of the population; the rural population, because of its dispersion, is usually further from doctors and hospitals than the population in urban centers. In Montana, 46.3% of the population in 1970 was rural, a high proportion.

The cost of delivering a person-oriented service such as public health is highly dependent upon accessibility to people, which is easiest in highly dense populations.

Of the states shown, Montana in 1970 had the highest proportion of rural population. In addition, Montana had the lowest proportion of "young families," families with their own children under 6 years.

TABLE IV
Summary of Social Characteristics: 1970
Montana Counties by Regions

Region/County	Total Population		Persons 14 to 17 years-% in school	Persons 25 years & over- Median school years completed	Married couples-% without own household	Families- % with own children under 6 years	Persons under 18 years- % living with both parents	Women 35- 44 years- Cumulative fertility rate ¹
	Number	% Rural Non-farm						
<i>Northwestern</i>								
Flathead	39,460	48.6	97.2	12.2	1.2	25.8	87.5	3,402
Lake	14,445	74.9	92.5	12.2	1.5	21.4	80.2	3,913
Lincoln	18,134	76.9	86.5	12.0	0.6	31.1	90.7	3,213
Mineral	3,114	93.9	94.6	12.3	1.7	29.2	88.8	3,311
Missoula	58,263	23.7	97.0	12.6	0.8	28.2	86.8	3,244
Ravalli	14,392	80.7	90.0	12.1	1.4	22.6	85.9	3,311
Sanders	7,093	79.6	99.9	12.0	0.9	22.9	88.9	3,334
<i>Southwestern</i>								
Beaverhead	8,187	25.7	96.6	12.4	0.6	27.3	89.1	3,053
Broadwater	2,526	79.5	99.9	12.3	---	22.5	86.2	3,365
Deer Lodge	15,652	35.4	97.3	11.8	0.4	27.2	84.1	3,313
Gallatin	32,505	32.5	92.9	12.7	0.4	26.6	93.0	3,022
Granite	2,845	83.4	99.6	12.2	2.2	27.7	90.4	3,717
Jefferson	5,238	92.8	73.8	11.3	0.6	28.7	65.0	2,857
Lewis & Clark	33,281	25.8	94.9	12.5	0.5	27.3	84.7	3,114
Madison	5,014	63.2	96.8	12.3	---	21.0	81.0	3,260
Meagher	1,966	75.6	99.9	12.0	1.1	22.5	87.9	2,940
Park	11,197	25.9	95.1	12.2	0.6	21.2	89.0	3,061
Powell	6,660	23.0	97.3	12.1	1.0	21.3	86.8	3,385
Silver Bow	41,981	18.3	94.3	12.1	0.7	26.9	85.5	3,674
<i>North Central</i>								
Blaine	6,727	72.0	99.9	11.8	1.7	27.8	84.8	4,365
Cascade	81,746	8.9	94.0	12.4	0.4	30.2	85.9	3,285
Chouteau	6,473	55.9	99.9	12.3	0.4	23.9	86.5	3,761
Glacier	11,078	48.4	92.7	12.0	1.2	33.2	76.7	4,459
Hill	17,358	27.2	97.4	12.3	0.5	27.3	87.2	3,818

TABLE IV
(cont.)

Region/Country	Total Population		Persons 14 to 17 years-% in school	Persons 25 years & over- Median school years completed	Married couples-% without own household	Families- % with own children under 6 years	Persons under 18 years- % living with both parents	Women 35- 44 years- Cumulative fertility rate ¹
	Number	% Rural Non-farm	% Rural Farm					
Liberty	2,288	61.1	38.9	99.9	12.3	28.2	91.5	3,642
Pondera	6,611	23.6	30.3	95.7	12.1	27.2	86.1	3,803
Teton	6,116	62.6	37.4	90.1	12.1	22.3	90.0	3,753
Toole	5,839	23.3	23.4	90.4	12.3	24.7	86.5	3,836
<i>South Central</i>								
Big Horn	10,057	45.2	27.6	89.6	11.2	34.3	79.0	3,432
Carbon	7,080	68.1	31.9	89.9	12.0	19.5	85.4	3,612
Fergus	12,611	22.3	23.9	96.8	12.2	25.3	86.6	3,514
Golden Valley	814	48.0	52.0	99.9	12.3	14.5	90.3	3,087
Judith Basin	2,667	47.0	53.0	97.1	12.4	21.3	97.6	3,701
Musselshell	3,734	71.1	28.9	95.3	11.4	20.2	87.1	3,354
Petroleum	640	46.7	53.3	82.4	12.2	31.7	83.3	*
Stillwater	4,632	67.4	32.6	94.8	12.2	21.1	88.5	3,621
Sweet Grass	2,980	66.2	33.8	84.2	12.2	20.5	94.3	2,933
Wheatland	2,529	76.6	23.4	99.9	12.2	21.8	94.7	3,862
Yellowstone	87,401	8.6	4.7	97.6	12.4	26.9	86.2	3,182
<i>Eastern</i>								
Carter	2,014	37.1	62.9	81.0	12.3	26.9	93.7	3,728
Custer	12,174	14.9	11.0	93.4	12.2	23.0	81.8	3,444
Daniels	3,083	64.4	35.6	80.9	12.1	24.3	90.3	3,987
Dawson	11,269	25.7	15.4	96.9	12.1	29.7	88.7	3,706
Fallon	4,050	7.2	24.8	90.1	11.5	28.1	89.2	3,978
Garfield	1,501	51.7	48.3	88.6	12.1	28.6	91.3	3,136
McCone	2,875	49.3	50.7	84.0	12.1	29.5	91.7	4,153
Phillips	5,421	62.4	37.6	97.7	12.1	28.8	86.5	4,037
Powder River	2,862	56.5	43.5	95.7	12.2	26.8	84.9	4,183
Prairie	1,769	56.2	43.8	76.0	11.4	22.4	09.7	3,548
Richland	9,837	24.9	27.9	92.6	11.7	25.1	89.6	3,777
Roosevelt	10,365	49.2	20.7	92.4	11.6	26.2	79.5	3,865
Rosebud	6,032	73.3	26.7	85.3	11.5	28.8	84.1	3,959
Sheridan	5,779	64.0	36.0	99.5	12.0	27.2	91.6	3,810
Treasure	895	50.2	49.8	89.3	12.4	17.2	92.4	2,917
Valley	11,645	34.4	25.3	89.8	12.1	30.0	86.7	3,615
Wibaux	1,449	54.2	45.8	79.6	12.1	18.6	89.0	3,861
Montana	694,409	33.5	12.8	94.6	12.3	26.8	86.3	3,419

¹ Children ever born per 1,000 women of all marital classes.

*Base for derived figure too small to be shown.

TABLE IV (cont.)

Region/County	Total Population		Persons 14 to 17 years-% in school	Persons 25 years & over- Median school years completed	Married couples-% without own household	Families- % with own children under 6 years	Persons under 18 years- % living with both parents	Women 35- 44 years- Cumulative fertility rate*
	Number	% Rural Non-farm	% Rural Farm					
Montana	694,409	33.5	12.8	94.6	12.3	0.8	26.8	3,419
Idaho	712,567	31.1	14.6	93.5	12.3	0.8	27.1	3,514
Wyoming	332,416	29.1	10.4	93.6	12.4	0.8	27.0	3,249
Colorado	2,207,259	16.7	4.7	94.3	12.4	0.9	27.3	3,009
Utah	1,059,273	16.3	3.1	95.8	12.5	0.7	33.7	3,787
Nevada	488,734	17.0	2.1	93.6	12.4	1.1	28.0	2,772

*Children ever born per 1,000 women of all marital classes.

Table V summarizes data related to income and poverty status in Montana in 1959 and 1969. The economic status of a population influences its ability to support health services; this, in turn, can affect its ability to get well and stay well. The table shows that the Montana population as a whole became more affluent in the decade 1959-1969. In addition, the proportion of the population which was poor was almost halved in the ten years (from 20.2% in 1959 to 10.4% in 1969). The proportion of poor families receiving public assistance declined in that time, oddly.

The State in 1969 contained a wide range of income levels among its counties, however, both in terms of median incomes and in terms of the proportion of the population below poverty level. The county with the highest 1969 median income was Lewis and Clark County, in the Southwestern Region (median income \$10,277, up from \$6,461 in 1959). The county with the lowest 1969 median income was Sweet Grass County, in the South Central Region (median income \$6,530, up from \$4,333 in 1959). The county with the highest proportion of families living below poverty level in 1969 was Blaine County, in the North Central Region, where 25.2% of all families lived below poverty level, as compared to 30.8% of all families in 1959. Only 19.7% of those poor families received public assistance income in 1969. The county with the lowest proportion of families below poverty level in 1969 was Golden Valley County, in the South Central Region, where only 4.0% of all families lived below poverty level, as compared to 35.4% in 1959.

Among the states shown, Montana was second highest in proportion of families living below poverty level, and had the second lowest median income.

TABLE V
Income and Poverty Status: 1959 & 1969
Montana Counties by Regions

County	POVERTY STATUS						
	Median Family Income in Dollars		Family Income Less Than \$3,000 Per Year - 1959		Family Income Less Than Poverty Level- 1969*		1969 % of Poor Families Receiving Public Assistance Income
	1959	1969	Number	% of All Families	Number	% of All Families	
<i>Northwestern</i>							
Flathead	5,392	8,567	1,716	20.0	1,002	10.0	10.0
Lake	4,183	6,786	1,063	32.9	669	18.2	5.2
Lincoln	5,483	9,711	526	16.8	264	5.7	18.9
Mineral	5,758	8,495	97	12.7	62	7.9	9.7
Missoula	5,769	9,066	1,805	16.4	1,235	8.6	11.4
Ravalli	3,819	7,137	1,279	38.8	567	14.9	8.5
Sanders	4,969	7,839	376	20.8	197	10.8	11.2
<i>Southwestern</i>							
Beaverhead	4,998	7,923	411	24.0	258	13.2	13.2
Broadwater	3,998	7,038	225	32.7	147	22.6	5.4
Deer Lodge	5,022	8,275	522	13.1	248	7.1	18.5
Gallatin	5,360	8,833	1,344	21.3	516	7.0	5.8
Granite	4,937	7,132	126	20.4	92	12.3	9.8
Jefferson	4,989	8,525	209	25.0	96	9.0	2.1
Lewis & Clark	6,461	10,277	869	12.3	533	6.5	15.6
Madison	4,470	6,783	392	31.5	204	15.6	2.5
Meagher	4,949	6,926	133	21.7	68	13.4	8.8
Park	5,253	7,659	713	20.4	325	10.7	16.6
Powell	5,384	8,446	302	18.4	77	16.2	—
Silver Bow	5,283	8,671	2,178	18.8	823	7.8	23.8
<i>North Central</i>							
Blaine	4,416	6,785	549	30.8	395	25.2	19.7
Cascade	6,032	8,955	2,590	14.2	1,682	8.3	19.9
Chouteau	5,610	8,700	327	17.8	99	6.3	6.1
Glacier	5,169	7,654	728	28.7	599	23.4	48.1
Hill	6,210	8,923	652	14.7	460	11.1	25.9
Liberty	5,858	8,600	100	16.0	46	8.1	13.0
Pondera	5,078	7,693	385	21.8	236	14.2	14.4
Teton	5,267	8,203	454	25.1	174	10.9	5.2
Toole	6,023	8,500	236	12.7	166	10.9	4.8

TABLE V
(cont.)

County	1959	1969	Number	% of All Families	Number	% of All Families	1969
							% of Poor Families Receiving Public Assistance Income
<i>South Central</i>							
Big Horn	4,375	7,310	1,378	31.5	474	21.4	18.1
Carbon	4,336	6,578	673	30.3	290	14.3	4.8
Fergus	4,992	8,299	834	24.2	352	11.3	5.1
Golden Valley	4,044	7,389	98	35.4	9	4.0	—
Judith Basin	5,332	7,155	175	21.8	71	10.5	—
Musselshell	4,927	6,763	351	27.8	131	13.6	16.8
Petroleum	5,418	7,315	39	17.8	25	15.0	—
Stillwater	4,796	6,752	323	22.2	160	12.5	3.8
Sweet Grass	4,333	6,530	238	28.6	131	16.5	3.8
Wheatland	5,460	7,467	153	21.6	88	12.6	—
Yellowstone	6,150	8,966	2,681	13.5	2,033	9.4	16.9
<i>Eastern</i>							
Carter	4,199	8,607	191	30.2	70	14.1	—
Custer	5,160	8,373	712	21.9	255	8.5	15.3
Daniels	4,488	7,754	257	29.1	53	6.6	20.8
Dawson	5,554	9,133	549	18.7	205	7.4	7.8
Fallon	4,694	8,888	258	26.1	119	11.5	—
Garfield	3,311	6,657	229	46.2	51	13.1	9.8
McCone	3,915	8,339	296	37.1	53	8.0	—
Phillips	1,353	7,231	443	30.6	177	13.1	10.7
Powder River	4,797	7,965	177	28.1	75	10.3	—
Prairie	4,470	7,366	155	28.8	77	16.2	—
Richland	4,462	7,767	739	28.6	289	11.8	2.8
Roosevelt	4,562	7,955	782	30.7	430	18.1	27.0
Rosebud	4,399	6,717	441	31.6	301	20.0	29.9
Sheridan	4,550	8,605	446	27.9	123	8.2	—
Treasure	4,538	6,955	100	32.8	47	17.2	8.5
Valley	5,325	8,191	846	21.1	399	14.0	23.1
Wibaux	3,431	7,300	183	44.0	46	12.7	10.9
Montana		8,512			17,821	10.4	14.9
Idaho		8,381			19,504	10.9	13.9
Wyoming		8,943			7,841	9.3	12.8
Colorado		9,555			49,850	9.1	20.1
Utah		9,320			22,802	9.1	20.9
Nevada		10,692			8,641	7.0	11.0

* Poverty level here refers to a poverty threshold as defined by the Federal Government and adjusted yearly. Poverty thresholds are computed nationally, but are adjusted by factors which include family size, sex of the family head, number of children under 18, and farm or non-farm residence. In 1969, the average poverty threshold for a non-farm family of four headed by a male was \$3,745. The poverty threshold is here compared loosely to a 1959 family income less than \$3,000 a year.

Table VI

Table VI summarizes employment characteristics for Montana counties and for the State as a whole in 1970. Employment characteristics are closely related to economic characteristics in that both indicate the degree to which health services can be supported in a population. In addition, employment frequently means access to health insurance or group health plans, whose availability may influence the health of a worker and his family. Unemployment is frequently used as an indicator of other social and physical health problems in a population; unemployment can mean that health care becomes a luxury, and that preventive medical care for entire families must be neglected. Another column on Table VI of special interest to health and social service planners shows the proportion of women in the labor force with children under 6 years of age. Such women may need day care facilities for their children; organized day care programs may provide an opportunity for applying organized preventive health programs.

In 1970, the Montana county with the highest rate of unemployment was Mineral County, in the Northwestern Region (13.9%). The lowest unemployment rate was in Daniels County, in the Eastern Region (0.4%). The county with the highest proportion of women in the labor force with children under 6, and with husbands present, was Lewis and Clark County (40.9%), in the Southwestern Region. The county with the lowest proportion of such women in the labor force was Stillwater County (12.1%), in the South Central Region.

In 1970, Montana's unemployment rate was the highest of the states shown (6.2%).

TABLE VI
Summary of Employment Characteristics: 1970
Montana Counties by Regions

County	Nonworker ¹ worker ratio	Percent in Labor Force ²					Civilian labor force-% unemployed ³	Employed Persons			Persons who worked in 1969-% worked 50-52 weeks
		Female 16 years and over	Married Women, Husband Present		Male			% in manufacturing industries	% in white-collar occupations	% government workers	
			Total	With own children under 6 years	18-24 years	65 years and over					
<i>Northwestern</i>											
Flathead	1.84	33.2	32.9	21.4	72.3	14.7	9.8	23.0	43.3	15.8	53.7
Lake	1.94	34.3	33.5	21.4	65.7	25.0	6.5	12.1	38.0	18.9	48.5
Lincoln	1.66	30.3	29.1	22.8	85.0	21.4	10.3	27.8	34.1	15.3	47.5
Mineral	1.53	43.5	43.4	25.9	73.8	14.9	13.9	24.7	35.5	31.7	44.5
Missoula	1.48	42.2	41.1	29.1	54.0	22.4	7.6	12.1	52.5	24.4	47.4
Ravalli	1.67	32.6	33.1	26.9	74.0	22.8	7.9	13.0	38.8	23.0	53.3
Sanders	1.80	32.1	33.3	16.1	78.7	18.1	11.9	21.6	36.3	25.4	48.6
<i>Southwestern</i>											
Beaverhead	1.44	40.6	40.7	36.4	64.8	29.2	5.7	4.6	39.9	24.6	51.8
Broadwater	1.65	35.8	34.2	31.3	84.4	15.1	3.6	10.5	44.3	18.0	58.1
Deer Lodge	1.71	34.9	39.8	29.7	74.9	8.7	7.0	33.8	27.6	28.3	56.1
Gallatin	1.48	40.4	42.0	34.2	46.5	30.2	5.4	6.4	52.6	34.5	39.5
Granite	1.82	26.7	29.7	31.8	57.4	20.0	5.1	19.4	27.8	21.1	44.0
Jefferson	1.92	37.3	46.2	36.0	46.8	28.3	4.5	4.7	38.3	41.6	58.6
Lewis & Clark	1.21	51.5	49.6	40.9	74.2	30.0	4.9	5.8	62.3	32.9	61.0
Madison	1.41	40.0	38.3	33.5	69.5	29.2	5.7	1.7	25.1	21.0	55.6
Meagher	1.29	33.6	32.0	15.4	81.7	52.8	6.7	19.7	21.1	15.7	54.5
Park	1.42	40.1	39.6	33.9	78.5	21.4	5.6	5.0	37.7	15.0	55.1
Powell	1.68	38.7	35.8	20.7	58.8	20.9	4.7	13.2	34.0	28.3	60.6
Silver Bow	1.67	36.8	34.2	25.9	77.0	18.0	6.1	6.3	46.4	15.8	60.5
<i>North Central</i>											
Blaine	1.84	34.5	31.2	28.4	70.7	29.2	10.6	2.7	34.3	21.7	49.7
Cascade	1.46	40.2	38.5	28.8	88.7	17.6	6.5	12.3	52.3	18.9	62.0
Chouteau	1.53	29.0	28.8	24.1	81.9	48.5	1.9	2.8	30.6	18.2	55.7
Glacier	2.02	37.7	40.1	30.7	66.0	21.5	12.6	2.8	44.3	26.6	48.5
Hill	1.54	40.8	40.6	31.5	62.9	29.0	4.3	3.5	45.1	21.3	54.6
Liberty	1.53	37.1	31.6	20.3	84.9	22.0	0.5	1.4	38.9	25.3	42.9
Pondera	1.58	34.4	33.1	33.1	82.3	37.5	3.2	3.1	38.7	17.6	58.5

TABLE VI
(cont.)

County	Nonworker ¹ worker ratio	Percent in Labor Force ²					Civilian labor force-% unemployed ³	Employed Persons			Persons who worked in 1969-% worked 50-52 weeks
		Married Women, Husband Present		Male		% in manufacturing industries		% in white-collar occupations	% government workers		
		Female 16 years and over	Total	With own children under 6 years	18-24 years					65 years and over	
Teton	1.72	29.5	31.9	21.6	88.8	33.1	4.2	4.2	33.0	16.7	57.9
Toole	1.63	35.6	33.6	29.2	76.7	31.5	3.6	4.2	41.1	22.5	57.8
<i>South Central</i>											
Big Horn	2.00	31.4	29.9	22.3	75.7	32.1	4.6	10.0	38.6	29.1	54.4
Carbon	1.75	30.1	31.6	20.4	67.2	16.8	5.2	5.0	36.5	16.6	50.8
Fergus	1.66	36.0	35.2	22.7	85.5	22.6	4.9	5.0	42.9	17.1	62.5
Golden Valley	0.97	45.8	48.6	40.6	41.5	53.4	4.7	---	23.0	23.0	57.5
Judith Basin	1.51	28.4	31.6	21.7	77.8	36.7	2.8	0.5	21.5	18.8	58.4
Musselshell	1.57	37.2	41.9	29.0	78.9	29.5	7.4	3.8	27.4	14.0	52.6
Petroleum	1.36	26.4	24.8	20.9	*	*	---	---	27.2	21.8	78.8
Stillwater	1.84	26.9	28.0	12.1	69.8	25.0	5.4	6.0	39.0	14.7	54.4
Sweet Grass	1.25	40.3	48.1	29.9	82.3	33.1	2.1	3.3	35.2	14.9	58.4
Wheatland	1.26	38.1	37.2	37.5	75.5	50.9	1.5	2.7	35.6	16.2	58.0
Yellowstone	1.45	42.2	40.7	29.3	70.1	24.1	5.8	8.7	53.8	14.5	58.3
<i>Eastern</i>											
Carter	1.38	33.8	32.7	16.8	84.2	62.0	2.4	2.9	24.3	21.6	61.7
Custer	1.53	42.2	42.0	32.1	66.3	26.1	4.7	2.7	48.7	21.9	64.4
Daniels	1.80	31.9	33.9	24.7	93.3	15.8	0.4	0.6	32.8	16.4	59.9
Dawson	1.53	39.1	39.6	32.2	79.5	31.7	3.1	3.9	39.7	15.1	58.6
Fallon	1.61	33.9	30.3	30.5	89.0	31.4	5.4	1.4	33.8	13.6	63.5
Garfield	1.07	40.3	36.6	29.0	100.0	54.8	2.3	2.5	28.7	19.4	70.9
McCone	1.68	27.5	22.3	19.0	81.8	50.3	2.3	1.0	31.7	15.5	66.1
Phillips	1.63	38.7	35.0	36.0	81.1	18.2	4.3	1.9	34.9	19.9	60.1
Powder River	1.42	38.3	35.8	22.7	78.9	38.1	2.9	---	23.0	9.7	59.6
Prairie	1.30	34.3	35.3	28.9	92.9	38.4	1.4	1.5	27.0	18.9	65.3
Richland	1.77	32.6	29.3	22.1	83.8	20.3	4.4	7.8	36.1	15.8	61.3
Roosevelt	1.87	39.2	35.0	36.4	81.7	16.7	8.8	3.7	42.7	26.8	50.6
Rosebud	1.54	43.0	44.9	36.9	85.8	32.6	4.6	7.8	35.7	24.7	52.7
Sheridan	1.83	25.6	29.2	17.2	67.7	25.7	3.0	1.3	27.4	15.8	58.2
Treasure	1.42	35.0	45.2	20.9	*	56.9	1.3	1.6	36.3	27.9	65.9
Valley	1.57	41.7	40.7	35.3	80.9	36.0	5.1	11.2	39.3	20.7	53.1
Wibaux	1.75	24.0	20.7	21.5	87.0	31.1	0.9	2.8	30.4	22.0	69.4
MONTANA	1.56	38.6	37.7	28.5	69.7	24.2	6.2	9.7	45.3	20.8	55.3

* Base for derived figure too small to be shown.

TABLE VI
Summary of Employment Characteristics: 1970
Selected Mountain States

State	Nonworker ¹ worker ratio	Percent in Labor Force ²						Civilian labor force-% unemployed ³	Employed Persons			Persons who worked in 1969-% worked 50-52 weeks
		Female 16 years and over	Married Women, Husband Present		Male		% in manufacturing industries		% in white-collar occupations	% government workers		
			Total	With own children under 6 years	18-24 years	65 years and over						
Montana	1.56	38.6	37.7	28.5	69.4	24.2	6.2	9.7	45.3	20.8	55.3	
Idaho	1.53	39.0	38.7	29.0	75.3	26.4	5.2	14.7	43.1	17.2	54.0	
Wyoming	1.46	40.4	38.9	28.7	71.4	27.9	4.8	6.4	46.4	21.9	57.6	
Colorado	1.39	42.6	40.2	27.9	74.9	24.7	4.2	14.6	53.9	19.8	56.5	
Utah	1.58	41.5	40.0	27.7	71.1	30.3	5.2	14.5	51.9	25.2	54.5	
Nevada	1.21	47.0	42.6	32.1	82.6	29.8	5.4	5.2	47.1	18.1	60.5	

¹ The ratio of all persons not in the labor force, including persons under 14, to persons in the labor force.

² Those persons either currently employed or actively looking for work, plus members of the armed forces on active duty.

³ Civilian labor force included the labor force minus members of the armed forces on active duty.

Table VII

Table VII summarizes numbers and proportions of disabled persons aged 16-64 in the populations of selected Mountain States in 1970. Disability clearly influences ability to work, as the figures show, and thus can affect income and ability to purchase health services. In addition, disabilities of certain kinds may predispose handicapped persons to additional health problems. Therefore, a high proportion of disabled persons may indicate a relatively high need for health care services of both general and specific kinds. Among the Mountain States shown, Montana in 1970 had the second highest proportion of disabled persons age 16-64 (11.7%). About one-third of those disabled persons were unable to work, and had been disabled for 6 months or more. This was about 4% of the total population of the State age 16-64. More than half of Montana's disabled persons age 16-64 were in the labor force in 1970, however, (52.2%).

TABLE VII
Disability of Persons 16-24 Years: 1970
Selected Mountain States

State	Total Population 16-64	Disabled or Handicapped									
		Number	Percent Total Population 16-64	In Labor Force		Not in Labor Force		Disabled Who Cannot Work		Disabled 6 Months or More	
				Number	Percent	Number	Percent	Number	Percent	Number	Percent
Montana	337,402	39,585	11.7	20,649	52.2	18,936	47.8	13,435	33.9	12,833	32.4
Idaho	346,703	45,918	13.2	23,679	51.6	22,239	48.4	14,719	32.1	13,482	29.4
Wyoming	165,837	17,627	10.6	9,240	52.4	8,387	47.6	5,468	31.0	5,190	29.4
Colorado	1,123,008	121,230	10.8	67,522	55.7	53,708	44.3	36,339	30.0	33,372	27.5
Utah	480,165	52,974	11.2	28,200	53.2	24,774	46.8	16,507	31.2	15,535	29.3
Nevada	273,124	25,952	9.5	14,040	54.1	11,912	45.9	7,578	29.2	6,976	26.9

Table VIII

Table VIII shows the age-adjusted death rate (1969-1971) and the five-year infant mortality rate as of 1971 for Montana counties by region. Age-adjusted death rates show what death rates would have been had all counties had the same age distribution. The six counties (10% of 56 in the State) with the highest age-adjusted death rates were: Roosevelt (11.6); Silver Bow (11.3); Daniels (11.1); Rosebud (11.0); Beaverhead (11.0); and Big Horn (10.8). Of these six counties, four have Indian reservations within their boundaries (Big Horn, Daniels, Roosevelt and Rosebud).

The six counties with highest five-year infant mortality rates in 1971 were: Roosevelt (42.0); Mineral (36.6); McCone (33.6); Granite (31.7); Deer Lodge (31.0); and Daniels (30.9). Of these six counties, two have Indian reservations within their boundaries (Daniels and Roosevelt). Although the figures are not entirely comparable, as the rates shown on Table VIII are five-year rates, the United States infant mortality rate for the year 1971 was 19.2. Twenty-one counties of Montana's fifty-six had a five-year infant mortality rate as of 1971 below that national figure.

TABLE VIII
Age-Adjusted Death Rates¹: 1969-1971
and Five Year Infant Mortality Rate²
Montana Counties by Regions

Region/County	Age-Adjusted Death Rate 1969-1971	Five Year Infant Mortality Rate as of 1971
<u>Northwestern</u>		
Flathead	8.8	23.7
Lake	9.2	28.3
Lincoln	9.7	26.4
Mineral	9.4	36.6
Missoula	8.1	19.5
Ravalli	8.2	21.5
Sanders	9.5	13.4
<u>Southwestern</u>		
Beaverhead	11.0	27.7
Broadwater	6.6	20.0
Deer Lodge	8.7	31.0
Gallatin	7.5	21.5
Granite	7.9	31.7
Jefferson	8.8	29.9
Lewis & Clark	8.9	21.8
Madison	8.6	18.2
Meagher	9.9	16.5
Park	10.1	21.4
Powell	8.5	24.3
Silver Bow	11.3	25.2
<u>North Central</u>		
Blaine	9.8	23.0
Cascade	8.7	17.9
Chouteau	7.4	26.7
Glacier	10.7	22.2
Hill	7.9	11.0
Liberty	8.4	17.0
Pondera	9.8	23.8
Teton	7.5	16.0
Toole	9.6	23.5
<u>South Central</u>		
Big Horn	10.8	28.0
Carbon	9.8	27.2
Fergus	8.1	25.9
Golden Valley	7.7	14.1

TABLE VIII
(cont.)

Region/County	Age-Adjusted Death Rate 1969-1971	Five Year Infant Mortality Rate as of 1971
Judith Basin	5.9	28.9
Musselshell	7.7	22.1
Petroleum	10.3	0.0
Stillwater	8.1	10.1
Sweet Grass	8.6	13.7
Wheatland	9.2	15.5
<i><u>Eastern</u></i>		
Carter	6.6	13.1
Custer	8.4	16.1
Daniels	11.1	30.9
Dawson	7.9	14.1
Fallon	7.6	24.6
Garfield	8.5	7.1
McCone	10.3	33.6
Phillips	8.5	24.7
Powder River	8.4	26.5
Prairie	7.4	14.5
Richland	7.8	17.8
Roosevelt	11.6	42.0
Rosebud	11.0	18.2
Sheridan	8.2	20.6
Treasure	8.0	11.4
Valley	9.2	26.0
Wibaux	9.3	0.0

¹ Rate per 1,000 population.

² Deaths under one year of age per 1,000 live births.

Table IX

Table IX shows crude birth rates and crude death rates for the Mountain States and the United States in 1960, 1965 and 1970. The Montana birth rate declined in the decade, as birth rates in the other Mountain States and the United States declined. Montana's birth rate in 1970 was lowest of the Mountain States (17.9). Montana's death rate fell during the decade, also (from 9.7 to 9.4); the Montana death rate in 1970 was highest of the Mountain States, although it equalled the national rate.

The table does not illustrate major causes of death in Montana, but statistics show that heart disease in Montana continues to be the State's biggest killer. In 1971, the rate of death per 100,000 population in Montana caused by heart disease was 329.4, as compared to 321.0 in 1970. In 1971 the United States' rate was 358.4. The second highest number of deaths in 1971 in Montana was caused by cancer; the death rate from cancer in 1971 was 147.9, down from 152.5 in 1970, and lower than the rate for the United States as a whole (160.9). Cerebrovascular disease or stroke was the third highest cause of death in Montana in 1971; the death rate from stroke was 112.1 in 1971. Accidents were the fourth highest cause of death in the State in 1971, with a death rate of 85.8, very much higher than the rate in the United States as a whole, 53.8. The death rate from motor vehicle accidents alone was 43.7 in Montana in 1971, compared to a United States rate of 28.3.

TABLE IX
Birth Rate, Death Rate: 1960, 1965, 1970
Mountain States and United States

State	1960		1965		1970	
	Birth Rate*	Death Rate*	Birth Rate*	Death Rate*	Birth Rate*	Death Rate*
Montana	25.9	9.7	19.3	9.3	17.9	9.4
Idaho	25.7	8.1	19.3	8.6	19.5	8.3
Wyoming	25.8	8.5	19.3	8.3	19.1	8.9
Colorado	24.5	8.7	18.7	8.2	19.4	8.3
New Mexico	32.3	6.9	23.6	6.6	21.5	7.3
Arizona	28.2	7.8	21.1	7.5	21.0	8.6
Utah	29.5	6.8	22.5	6.7	25.9	6.9
Nevada	25.5	8.9	21.5	7.3	18.5	8.3
United States	23.7	9.5	19.4	9.4	18.2	9.4

* Rate per 1,000 residing in area.

Source: U. S. Bureau of the Census, Statistical Abstract of the United States : 1972 (93rd edition.) Washington, D.C., 1972.

HEALTH SERVICES

PROBLEM A: TOO LITTLE EMPHASIS IS PLACED ON PREVENTIVE HEALTH SERVICES IN MONTANA.

BACKGROUND

In Montana, as in the United States, the approach to health in the past has been more curative than preventive. The emphasis has been on the care and treatment of illness and only rarely has consideration been given to the establishment of programs which would serve to prevent illness and disability. One need only to look at the tally of federal expenditures for health and related purposes as proof of the secondary position preventive health has played in our society.

Estimated Federal Expenditures for Health and Related Purposes (1965)*

In Thousands of Dollars

Treatment and Restoration	\$1,652,459
Research	1,112,994
Long-Term Care and Domiciliary Maintenance	771,770
Control and Prevention	735,735
Other	221,631

If for no other reason, the rising cost of health care provides a mandate for prompt attention to the area of prevention. The current curative approach to health is ultimately more costly, both materially and socially, than the avoidance of the occurrence of these illnesses. "In 1963, . . . morbidity losses caused by mental illness were twice as large as direct expenditures; premature mortality costs (lost years of working life) caused by heart disease were more than six times as large as costs of care; and morbidity and mortality losses associated with injuries were more than five times as great as direct medical expenditures for care and treatment."**

This loss of productive manpower costs society, as a whole, far more than we can afford to pay.*** The prevention of acute and chronic illness and disability is, therefore, one of the primary goals set forth in the Montana State Plan for Health. Redirecting emphasis toward preventive health will save costs in terms of dollars and increased productivity. ". . . if one looks at people as being one of the most valuable resources of the nation, health

*Blum, Henrik & Associates, Health Planning 1969, University of California, School of Public Health, Berkeley, California, 1969, p. 4.24.

**Ibid, p. 9.37.

***Nothing in this problem statement is meant to indicate that there is not a need for curative medicine. There are certain disease categories where the methods of prevention have not been refined; and, there are certain age groups, particularly the elderly, where prevention techniques have only a limited impact.

services that result in the prolongation of productive life take on more and more of the characteristics of an investment good."*

In Montana, the four leading causes of death are heart disease, stroke, cancer and accidents. At least three of the four could be avoided or assuaged by participating in effective preventive health programs. Combining public education with expanded preventive health programs could act as a catalyst for the promotion of better health for all Montanans.

Dentists have long used a preventive approach to dental hygiene with amazing success. If the same approach could be used for such preventive health measures as sanitation (environmental services), immunization, pre- and post-natal care, laboratory services, PKU testing, nutrition, fluoridation, family planning, injury control, physical fitness, mental hygiene and related social illnesses, the effects would be far reaching enough to bring about a positive change in the health of the population as a whole.

The Helena Comprehealth Plan, a 3-year demonstration project undertaken by the State of Montana to serve the medically indigent not covered by other insurance, demonstrated the effect an applied comprehensive health care program emphasizing preventive health care can have on reducing the total cost of care while improving the health status of the participants. The following excerpts from the final evaluation of the Helena Comprehealth Program** illustrate this:

" . . . Comprehealth has clearly demonstrated the need for supportive social services to encourage preventative health care practices. Low income people generally have poor health care practices resulting from infrequent contact with providers; changing these behavior patterns in order to improve health is as important as making these benefits available. Otherwise, preventive care is unlikely to occur. . . "

"The most significant finding is that under the Comprehealth concept, initially high utilization of benefits was followed by consistently decreasing utilization as the recipient population became healthier and the need for health care decreased. This resulted in lower costs for care over the life of the demonstration and lower total costs when compared with similar services offered by Medicaid."

Unfortunately, incentives to promote preventive care are not uniformly available. Health insurance companies do not usually cover routine check-ups, and the level of public awareness of the need for preventive health is low. These problems, among others, must be dealt with to assure the type of regular health supervision necessary to combat the onset of illness.

It is a shortcoming of our fragmented structure for the health care delivery in Montana, and the bureaucratic demands of federal funding, that there is a tendency to classify health services in terms of categories or programs which provide a specific type of service. Preventive health services transcend all categories and demand a restructuring of conventional thinking to assure any change in the health status of Montanans. Preventive health offers no cure but, instead, a way of life. Preventive health is an artificial category for any process which attempts to remove the social, economic or environmental barriers which inhibit healthful living.

*Blum, Henrik & Associates, Health Planning 1969, University of California, School of Public Health, Berkeley, California, 1969, p. 9.36.

**Comprehealth: A Rural Approach to Health Maintenance, Urban Management Consultants of San Francisco, Inc., January, 1974.

If preventive health is to foster healthful living, many conceptual changes have to occur. People have to become more actively involved in keeping their own bodies healthy, rather than placing the entire responsibility on already overworked health providers. This will demand, among other things, massive doses of health education. Health education must take on new and broader meanings. Education becomes little more than mere information if it fails to result in a change in behavior. The task, as formidable as it may seem, is to teach people about their own bodies and their environment and cause them to adopt practices which will keep that body and environment healthy. Health providers in every stratum must give new emphasis to assisting in this process.

Programs promoting preventive health measures should be adequately funded and continued. Attempts should be made to expand on the stringent categorical classifications and experiment with innovative methods of delivering coordinated comprehensive care which will result in improving the health status of the "whole" person. Greater emphasis should be given to the development of positive health habits in children, including more health education in schools, coupled with expanded use of school-related health professionals.

INCENTIVES FOR PREVENTION

Incentives must be provided to encourage both consumers and providers to adopt a preventive health approach. Methods must be developed to quantify the impact of preventive techniques on the population. Consumers and providers must be given statistical proof of the effectiveness and the potential savings, in terms of money and increased productivity, that preventive health care can provide. Approaches to comprehensive health care such as health maintenance organizations*, which provide monetary incentives to keep people healthy, should be studied, improved and adapted to the needs of Montana.

PLANNING

In addition, agencies with planning responsibilities should reconsider the importance of prevention in their work. In reviewing the various plans stemming from health-related programs, it becomes apparent that greater emphasis should be given to the study of the causes and the development of potential prevention measures of the identified area of concern. Most plans reinforce the curative approach to health by outlining methods of treatment without delving into the areas of cause and prevention.

In the Montana State Plan for the Improvement of Emergency Medical Services, a developed approach to improve emergency medical services is outlined, but little is said regarding the causes of accidents or measures to prevent their occurrence. The same is true for the Montana State Plan for Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation. Despite the title, the Plan only touches on prevention and early detection of alcohol dependence, while placing full force and funding behind treatment and rehabilitation. These two examples are by no means unique. As planning gains importance in the health field today, programs which develop plans tend to overlook, or at least under value, the need for prevention planning. Although many health-related programs are in the business of providing services, it seems that these programs could offer no greater treatment than the prevention of the illness they are designated to serve.

SDHES AND PREVENTION

Finally, special attention should be given to preventive aspects of the various programs of the SDHES. While prevention is emphasized by the Department as a whole, the inclusion of prevention within the separate Bureaus and

*See Economics and Health Care, pp. 233-236.

Divisions is treated in an uneven manner and coordination of preventive approaches among the Bureaus and Divisions is scanty.

Because a successful program of preventive health care demands a multifaceted approach, the following objectives represent only the tip of the iceberg, with 90% of the mass still hidden beneath the surface. The implementation of these objectives can only act to stimulate a redirection of emphasis toward preventive health care in the future.

OBJECTIVE 1: To strengthen existing programs which offer preventive health services, specifically a) programs being conducted by the Department of Health and Environmental Sciences and b) community-based health care programs.

Sub-Objective a: To support the adoption of an affirmative action policy with regard to family planning in Montana by 1976.

Implementation: The Family Planning Centers across the state offer a variety of preventive health and birth control services.

The Department of Health and Environmental Sciences should work to remove any barriers which may inhibit the use of Family Planning Services by Montanans. A legislative resolution is the best way to assure this. CHP Advisory Council should seek legislative support.

Sub-Objective b: To support and insure adequate funding for the continuation of the preventive dentistry program being conducted by the Dental Health Bureau, Department of Health and Environmental Sciences.

Implementation: The Dental Health Bureau of the Department of Health and Environmental Sciences should receive active support from CHP and other bureaus when approaching the legislature for funding of the preventive dentistry program.

Sub-Objective c: To actively support fluoridation of drinking water as a method of inhibiting dental disease.

Implementation: The benefits of fluoridation should be publicized and explained to local communities by the Dental Health Bureau and local dental professionals.

The Dental Health Bureau should offer technical assistance to communities interested in fluoridating their water.

CHP, Dental Health Bureau, and Montana Dental Association should reconsider the submission of legislation regarding fluoridation and take appropriate action based on their conclusion.

Sub-Objective d: To insure adequate funds to continue and expand the Title XIX screening for children currently being carried on by Maternal and Child Health Bureau, Department of Health and Environmental Sciences.

Implementation: The Maternal and Child Health Bureau, working cooperatively with local health professionals (e.g.; school nurses, local physicians) should develop mechanisms for referral and follow-up

to be carried out by local people. Attempts should be made to expand coverage to children not receiving Medicaid benefits. Legislative appropriation and funding from local funding sources should be supported.

Sub-Objective e: To develop on-going well-child clinics in five population centers by 1976.

Note: The Children and Youth Project in Helena is an example of such an on-going project. Supported by federal funds and local in-kind matching, it offers comprehensive services in conjunction with the City-County Health Department.

Implementation: Through a cooperative effort of the Maternal and Child Health Bureau, Preventive Health Services Bureau, Bureau of Nursing, Dental Health Bureau, and Health Education Bureau, an attempt should be made to spearhead the project. Local health professionals, Areawide CHP's, and local voluntary associations should be involved to sustain the effort into an on-going project.

OBJECTIVE 2: *To examine new approaches for providing preventive health services to Montanans.*

Sub-Objective a: To determine the degree to which prevention is and/or could be an aspect of the programs within each division and bureau of the Department of Health and Environmental Sciences and to design a mechanism for a cross-pragmatic approach to prevention within the Department of Health and Environmental Sciences by 1976.

Implementation: CHP staff with the Advisory Council's recommendation should present a proposal to accomplish this to the State Department of Health and Environmental Sciences' administration.

Sub-Objective b: To identify a county with poor health status (as proven by statistics), isolate a statistic, develop a preventive campaign to lower the incidence of the condition by 1976.

Note: For example, Roosevelt County has an infant mortality rate of 39.2 deaths per 1,000 births, compared with 21.6/1,000 for Montana and 19.2/1,000 for the U.S. If a comprehensive plan could be developed to educate mothers, provide nutritional information, early and continued examinations through pregnancy along with other necessary services, would this 1) lower the incidence of infant mortality and 2) change the behavior of mothers so that preventive steps would be taken for future births?

Implementation: The Department of Health and Environmental Sciences should determine which county would serve as a model. Local health professionals, voluntary organizations, and local elected officials should be involved with the planning and development of the project.

OBJECTIVE 3: To provide more and continued information and education regarding personal preventive health measures and preventive health services to the public.

Sub-Objective a: To encourage the development of an effective adult health education package containing preventive health information to be used for presentations to service clubs, PTA's, senior citizen's groups and other organizations showing interest by 1975.

Implementation: Department of Health and Environmental Sciences, Health Education Bureau, in cooperation with Preventive Health Services Bureau are the most logical entities to take on this responsibility.

Sub-Objective b: To provide at least two continuing education seminars on preventive health for health professionals in Montana by 1976.

Implementation: The Montana Medical Education and Research Foundation (MMERF) should work in conjunction with the various professional organizations (MMA, MNA, MHA) and regional professional schools to provide these seminars.

Sub-Objective c: To provide at least two seminars for elementary and secondary school teachers on preventive health measures by 1976.

Implementation: The Joint Staff Committee (membership includes: 50% representatives of the State Dept. of Health and Environmental Sciences and 50% representatives of the Office of the Superintendent of Public Instruction) should work in conjunction with the various teacher associations to provide these seminars.

Sub-Objective d: To develop a program of continuing education for dental professionals to disseminate information regarding new trends in dentistry, including prevention techniques.

Implementation: Montana Medical Education and Research Foundation (MMERF) should work in conjunction with the Montana Dental Association and regional dental schools to provide these seminars.

OBJECTIVE 4: To encourage that all plans for health-related programs identify causes and develop prevention techniques within the Plan.

Sub-Objective a: To require that all plans developed by the Department of Health and Environmental Sciences include prevention planning by 1975.

Implementation: All bureaus of the Department of Health and Environmental Sciences who have responsibility for developing a plan should include prevention planning in their work. This can be accomplished by administrative action within the Department of Health and Environmental Sciences.

Sub-Objective b: To include a consideration of prevention planning in review of health-related plans.

Implementation: The Office of Budget and Program Planning has the responsibility for review and comment of plans from state agencies. They should consider prevention planning when reviewing documents.

*OBJECTIVE 5: To require insurance companies to design health insurance programs which support and encourage preventive health care.**

Sub-Objective a: To research and draft legislation to require that insurance companies in Montana must offer a package which provides for preventive care by 1976.

Implementation: CHP and the Preventive Health Bureau of the Department of Health and Environmental Sciences should research and cause to be drafted such a legislative proposal.

* (Such as: regular dental, physical, eye and hearing examinations, immunization, family planning, gynecological examinations.) See also p.226+.

PROBLEM B: HEALTH EDUCATION HAS BEEN UNDERESTIMATED AS AN INTEGRAL PART OF THE HEALTH CARE DELIVERY SYSTEM IN MONTANA.

A uniformly available program of health education is necessary to stimulate improvement in people's understanding, attitudes and actions concerning 1) sound preventive health practices, 2) appropriate use of health services and resources, and 3) participation in and support of health program development. To be most effective, health education should be available in a variety of settings. Three of the most important locations are the school, the community, and the hospital.

SCHOOL
HEALTH
EDUCATION

Among the health needs listed in nominal group sessions across the state and at the Statewide Governor's Conference on Health Education, the one that stood out more than most was the need for comprehensive school health education. Deficiencies in personal health habits that lead to health problems of youth develop from forces such as limited knowledge, attitudes and values of teachers, parents and youth. Health problems affecting youth in this state will continue to increase if no effective action is taken. Education is needed to combat such problems as alcohol and drug abuse, venereal disease, teen pregnancies, dental disease, malnutrition, suicides, smoking, etc. Comprehensive health education is needed in all schools.

COMMUNITY
HEALTH
EDUCATION

The President's Committee on Health Education and the multiple proposals for national health insurance support the development of programs to promote health maintenance and prevent disease. Health education ranks at or near the top of priority needs expressed by local groups in Montana identifying health needs. Two factors to be considered here are:

- a) Additional manpower is essential if health education programs are to be accessible to all people of Montana.
- b) Available resources throughout the state must be coordinated to produce the maximum service delivery.

PATIENT
EDUCATION

The spiraling costs of medical care have created extensive interest in organized patient education programs. Such chronic conditions as heart disease, cancer, stroke, diabetes, glaucoma and emphysema require on-going patient responsibility for adequate management, yet surveys have indicated that persons with chronic illnesses and their families are often unaware of the limitations and special care requirements of these patients. It has been demonstrated that effective patient education programs definitely decrease the number of hospital readmissions and greatly reduce the number of days of hospitalization on re-admission. Insurance companies in many areas have begun to recognize the benefits of patient education and are considering it a reimbursable item. Several Montana hospitals and nursing homes have initiated patient education programs. Existing programs should be continued and looked to as models for new programs.

OBJECTIVE 1: *To develop a multi-faceted system of health education which is uniformly available to all Montanans.*

SCHOOL
HEALTH
EDUCATION

Sub-Objective a: To develop a model school health education program in a school district in one CHP areawide district in the State, involving participation of the community, including School Board, school officials, teachers, parents, students, school health nurses or community health nurses and community leaders by July, 1975.

Implementation: Joint Staff Committee (made up of 1/2 members from Office of the Superintendent of Public Instruction and 1/2 members from State Department of Health and Environmental Sciences), State PTA, Health Education Bureau, Bureau of Nursing, OSPI staff and Montana Hospital Association Executive Committee will lend assistance to areawide CHP and local communities.

Sub-Objective b: To organize meetings to discuss need for comprehensive school health education with CHP areawide representatives and other community leaders including school officials, teachers and students, to be held the same day teachers meet to discuss use of the Health Curriculum Guide by July, 1975.

Implementation: Health Education Bureau staff assist in organizing community meetings at the time the Guide is introduced

Sub-Objective c: By 1979, to implement comprehensive school health education programs in grades kindergarten through twelve in at least one school district in each of the five area-wide CHP organizations.

Implementation: State Department of Health and Environmental Sciences assigned to CHP areas.

Sub-Objective d: To require the certification of personnel teaching health education in public schools by 1979.

Implementation: The Joint Staff Committee would have the responsibility of investigating the possibility of certification and promoting the adoption of such a practice.

Sub-Objective e: To promote passage of Federal legislation to provide demonstrations and training projects for school health education.

Implementation: Congressmen, community leaders and CHP should be asked to promote this legislation.

COMMUNITY
HEALTH
EDUCATION

Sub-Objective f: To coordinate health education efforts for geographic regions of the state by July, 1975.

Implementation: Health Education Bureau to assign staff to work with the five CHP Areawide organizations.

Sub-Objective g: To place by 1976, at least one health education staff person responsible to a local health authority or the State Department of Health and Environmental Sciences in two of the five CHP areas in the state to develop areawide community health education programs for those areas.

Sub-Objective h: By 1977, to develop such a plan and initiate implementation.

Sub-Objective i: By 1979, to evaluate the plan and if it has proved its effectiveness, continue in that area and offer to other areas in the state.

Sub-Objective j: By 1976, to initiate, through efforts of Office of Superintendent of Public Instruction and State Department of Health and Environmental Sciences, adult education classes in health education in five school districts in the state, either as part of the comprehensive community health education areawide program, or as separate demonstration projects.

Implementation: (for g, h, i, j) State Department of Health and Environmental Sciences and Office of Superintendent of Public Instruction work with local school districts and Areawide CHP.

Sub-Objective k: By 1975, to explore the possibility of writing a grant to employ health education aides for one or two Areawide CHP areas to work with State Department of Health and Environmental Sciences health education staff in providing health education services to the area or specific communities.

Implementation: Health Education Bureau coordinate with State and Areawide CHP areas.

Sub-Objective l: By 1976, to develop and demonstrate a model for sharing patient education personnel by three or more hospitals in one of the Hospital Learning Center areas which can be adapted to other hospital and nursing homes in the state.

Sub-Objective m: By 1979, to establish organized patient education programs in at least fifty percent of the hospitals and nursing homes in Montana.

Implementation: (for l and m) Hospital and Medical Facilities Division and Health Education Bureau serve as co-directors of project, coordinate with Montana Hospital Association, learning centers, and local hospitals. Funding by Public Health Service Health Care Facilities Training Service. Efforts should be made to utilize existing consultant services such as those resulting from federal mandates for activity program consultants.

HEALTH SERVICES

PROBLEM C: PRIMARY AND EMERGENCY MEDICAL SERVICES ARE OFTEN NOT AVAILABLE TO MONTANA CITIZENS.

PROBLEM

The shortage of health manpower and a maldistribution of the same within the state have created pockets of service scarcity in rural Montana (see Manpower component section).

Primary and emergency medical services (EMS), because of their respective high utilization and life-saving capacity, are most important health services that should be made available to areas that do not now have medical care. The Emergency Medical Services Bureau lists over 100 ambulance services in Montana. For the most part, the distribution of ambulance centers in Montana seems adequate. Unfortunately, the chain of emergency medical service (EMS) elements that the EMS Bureau refers to in their plan has, in too many instances, breaks that hamper the delivery of the service.

EMS PLAN

In an effort to insure minimal fragmentation and orderly improvement of the emergency medical system, the State Plan for Emergency Medical Services was developed in 1973. The Plan discusses EMS in six basic areas and makes recommendations for improvement: Councils, training, transportation, communications, facilities, and disaster planning. Each of the elements, if implemented in an orderly fashion, are intended to reduce economic loss to Montana citizens. Probably the only significant shortcoming of the EMS Plan is that the prevention of accidents and other potential emergency situations have not been adequately addressed in the Plan. The long-term effects of advocating improved prevention could prove to have as great an impact on economic loss as improvement of the existing system.

OBJECTIVE 1: To insure appropriate health care to Montana citizens.

Sub-Objective a: To support and assist in the implementation of the MONTANA STATE PLAN FOR THE IMPROVEMENT OF EMERGENCY MEDICAL SERVICES by 1976.

Implementation: CHP supports the principles of the EMS Plan and will assist in its implementation.

Sub-Objective b: To promote the development of a preventive portion of the State Emergency Medical Services Plan by 1976.

Implementation: Currently several state departments are concerned with accidental injuries. The Departments of Health, Highways, Labor, and Intergovernmental Relations should join in a cooperative effort to study the causes of accidents and develop a preventive program.

HEALTH SERVICES

PROBLEM D: THE PEOPLE OF MONTANA DO NOT RECEIVE A UNIFORM MINIMUM LEVEL OF LOCAL PUBLIC HEALTH SERVICES.

There is an absence of uniformity in the local public health services available to the residents of Montana's 56 counties. This basic problem causes additional problems which are of more immediate concern to Montanans--inadequate surveillance of communicable diseases, consumer confusion about where to go for particular services in areas without an integrated local public health department, and increased health care costs for illnesses which can be prevented or treated in their early stages at lower costs by proven public health practices.

Historically the state has expected local communities to assume major responsibilities for organizing local public health services. This approach has permitted Montana to meet its public health needs with varying degrees of success. Without modifying this pattern future public health needs cannot be met effectively and efficiently.

BACKGROUND

Existing legislation, which provides for the organization of local health units, generally does not meet current needs. Although several organizational patterns are permitted under existing legislation, in most instances the counties serve as the local health jurisdiction. Current Montana statutes enabling the creation of local health departments are permissive with respect to the level of services to be offered by a local health department. As a result, only three counties in the State (Cascade, Missoula, and Lewis and Clark) offer a full range of public health services in an organized and coordinated public health department. The activities, staffing patterns, funding levels and funding sources vary greatly between these three islands of integrated public health departments. However, each provides a wide range of public health services (from dental screening to home health nursing) while the majority of the other counties in the State do not provide even minimal services--the local health board and the local health officer are only nominal entities in many counties.

In many areas of the State, public health services to promote sanitation or render other basic public health or medically-related services do not exist or are not accessible to a significant percentage of the population. The most obvious reason for this disparity in public health services between counties is economic. Local health departments are basically financed by local tax funds, and the amount of revenue available to many counties for this purpose does not make it feasible to have anything more than a nominal health department. Although Montana law requires the appointment of local health officers, most serve in a part-time capacity. The part-time local health officer is concerned primarily with providing medical services for his private patients, and at times is unable to devote sufficient attention to his responsibilities as health officer.

FRAGMENTATION

Health programs in Montana, as in most other states, are not effectively related at the level where services reach the recipients. Fragmentation occurs in different ways. In some instances, program responsibility is dispersed among various governmental agencies within a single jurisdiction or responsibility is divided among jurisdictions with overlapping authority (school districts, cities, and special purpose jurisdictions of other types).

In other instances, programs are dispersed among official, private and voluntary health agencies. Local government health services in Montana are usually ineffectively organized and incomplete. This tends to result in ineffective use of scarce resources and does not satisfy comprehensive and continuing health care requirements.

POLITICAL
CONSIDERA-
TIONS

Local health principals--private, public or voluntary--are slow to develop cooperative approaches to health policy and program development. Political considerations are seen as a major blockage to improving public health services to Montanans. The most significant political issue in public health organization is the revision of out-moded, overlapping and ambiguous jurisdiction. Traditional political boundaries continue to dominate as the primary consideration in the determination of a geographic base or local public health service. Despite moves by the past two governors to encourage the creation of district or multi-county organizations for planning purposes and for the delivery of more comprehensive services, there exists great reluctance to consolidation as a viable method to address problems now circumscribed by traditional political boundaries--opposition to any new concept that appears to threaten existing political jurisdiction or local power. Although most counties lack the financial capabilities to provide comprehensive traditional public health services, most are reluctant to develop a reasonable approach to the delivery of local public health services.

Much of the information included in this section of the Health Plan has been gleaned from a rough draft of a final report prepared as a result of the passage of HJR 18 during the 1973 legislative session. This resolution calls for the study of public health services in Montana.

OBJECTIVE 1: *To promote the adoption of the concept of regionalization for the delivery of Public Health Services.*

Sub-Objective a: To investigate the adoption of the Governor's twelve sub-state districts as principal local public health jurisdictions for Montana and arrive at a final decision by July 1, 1975.*

Implementation: Representatives of the State Department of Health and Environmental Sciences, local health departments, areawide comprehensive health planning organizations, the Governor's office and other health providers must be involved in determining whether or not the adoption of the Governor's twelve sub-state districts as the principal local public health jurisdictions represents the best course of action. If these individuals feel that this is the best course of action, then the Governor's office must be notified and legislation must be written to implement this sub-objective. The Commission on Local Government should be the principal investigator relating to implementation of this sub-objective.

*Sub-Objective b: To investigate the possibility of decentralization of the Department of Health and Environmental Sciences into the Governor's five administrative areas** by July 1, 1977.*

Implementation: The health specialist on the staff of the Commission on Local Government would be the principal investigator. The investigation must include all people and interests affected by a move of this sort.

Sub-Objective c: To provide additional funds to stimulate the development of acceptable local public health units, providing at least the minimum services with approved organizational structures by July 1, 1977.

Implementation: The following is an example of the funding formula which could be used:

1. Equal base amount for each county.
2. Standard per capita amount to each county.
3. Incentive bonus for multi-county local public health units (two or more) perhaps double the base amount.
4. Additional incentive bonus to multi-county public health units that conform to one of the Governor's existing twelve sub-state districts perhaps triple the base amount.

*See Appendix 1 for the maps of the 12 districts and 5 administrative areas.

**Ibid.

Implementation:
(continued)

5. Incentive bonus would be provided to areas which offer more than the minimum level of public health services as defined by the HJR 18 final report.

The State Department of Health and Environmental Sciences, representatives of local health departments, and representatives of the people in the State active in comprehensive health planning should by 1977 be committed to the implementation of improving and strengthening local health services to the point where additional appropriations will be requested of the legislature to support delivery of these services on a more uniform basis throughout the State. Representatives of the State Department of Health and Environmental Sciences in conjunction with local health department representatives would be the principal actors in the implementation of this sub-objective.

OBJECTIVE 2: *To insure the gradual building of an integrated public health program that will provide comprehensive public health services of optimum quality equally available and accessible to all Montanans.*

Sub-Objective a: To encourage the Department of Health and Environmental Sciences to take aggressive roles in stimulating and supporting the development of local public health units that provide a minimum level of public health services and acceptable organization and staffing levels. Local public health policy statements should be issued by the State Department of Health and Environmental Sciences by July 1, 1975.

Implementation: The State Department of Health and Environmental Sciences, in cooperation with areawide comprehensive health planning units and local health departments, should take a public stance supporting an aggressive role in stimulating and developing local public health services. This should at the very least take the form of a policy statement issued by the Director of the DH&ES supporting the implementation of the delivery of a defined minimum level of public health services on a uniform basis throughout the State of Montana.

Sub-Objective b: To define by July 1, 1975, acceptable minimum levels of local public health services to be provided by local public health jurisdictions. The acceptable minimum level of services to be provided by a local public health unit in Montana should include: 1) community health services, 2) preventive health services, and 3) environmental health services.

Implementation: The State Department of Health and Environmental Sciences will have to officially announce an acceptable minimum level of local public health services in order to implement this objective.

Sub-Objective c: To encourage the development of single, full-time, coordinated, integrated organizations for the delivery of local public health services by July 1, 1977.

Implementation: After the State Department of Health and Environmental Sciences has made the commitment to support this type of service; after it has been given the authority and the financing to do so; and after the studies have been accomplished by representatives of Comprehensive Health Planning, the State Department of Health, the Commission on Local Government, and other interested individuals; the SDH&ES should, in cooperation with the other interests mentioned in this narrative, promote a program which would develop acceptable administrative organizations which can effectively provide the minimum level of services required.

Sub-Objective d: To insure that each local public health jurisdiction maintains at least an acceptable minimum level of services and acceptable organization and staffing levels by July 1, 1977, and in subsequent years. Staffing requirements may vary in each public health jurisdiction; however, a public health unit that is delivering an acceptable minimum level of services could contain the following minimum full-time staff in a single administrative structure:

- 1. Health Officer/Administrator
Prerequisites should include:
Doctor of medicine degree with public health experience or a master's in public health. If the Health Officer/Administrator does not hold a doctor of medicine degree, those services requiring a physician should be contracted out and the SDH&ES would need to be assured that the medical aspects of the public health program are being conducted under the supervision of a competent physician.*
- 2. Public Health Nurses (1 per 4,000 pop.)*
- 3. Sanitarians (1 per 12,000 pop.)*
- 4. Health Educators (at least 1 per local health unit)*
- 5. Part-time Dental Hygienist/Dentist (at least 1 per local public health unit)*
- 6. Vital Statistics Personnel*
- 7. Clerical Support*
- 8. Outreach Workers*

Implementation: Staffing requirements should be defined through legislation and policy statements of the SDH&ES which would be uniformly enforced by that department throughout the state on a continuous basis.

OBJECTIVE 3: To encourage that local and multi-county Boards of Health be composed of consumers, providers, and locally-elected officials.

Implementation: Written into the legislation defining and providing funds for the delivery of local health services should be the consideration that the local boards of health must be composed of consumers, providers and locally-elected officials.

HEALTH SERVICES

PROBLEM E: EXISTING HEALTH RESOURCES ARE NOT UTILIZED TO THE FULLEST EXTENT.

Although many communities in Montana are medically underserved, another problem arises in the delivery of health services when communities fail to utilize existing health resources to the fullest extent. It is difficult to determine the ideal utilization rates for all existing programs, but at least two types of health services, the various home health care agencies across the state and the Medically Needy Program under the Department of Social and Rehabilitation Services, show low utilization in terms of potential use.

HOME HEALTH

It has been estimated by the Department of Health and Environmental Sciences, Bureau of Nursing, that 10% of the population of an area over 65 years of age could benefit from home health services at any given time. Yet, by examining the utilization rate of Dawson County's home health agency, we find that although 994 persons in the county are over the age of 65, an average of only 20 individuals a month are using the home health services offered. According to the Bureau of Nursing formula, up to 99 persons could be potential consumers of such a service.*

MEDICALLY NEEDY

Under the Medically Needy Program offered by the Department of Social and Rehabilitation Services, families whose incomes are not greater than 133% of the welfare assistance standard could be eligible for complete Medicaid coverage. If the family situation falls into any of the categories for welfare assistance (ADC-UP, ANB, AD), the entire family could be eligible for medical coverage whether they receive assistance or not. If the family situation is not categorically related, at least the children could be medically covered under this program. A family of four (two adults, two children) can make up to \$367 monthly and still be eligible to receive Medicaid coverage for their children. In Montana, 15.5% of all families make less than \$4,000 annually, an average of \$333 monthly, yet there are only 2,000 people in the state currently enrolled under the Medically Needy Program.

Taking into account the relative newness of these and many other programs, a certain increase can be expected as more people discover the service. But a more affirmative approach in the areas of public promotion and increased health information regarding existing health resources could eliminate the "time lag" apparent in newly developed health services.

Still another aspect to consider in the study of utilization is the social, economic and attitudinal barriers which inhibit certain groups from seeking necessary health care. More extensive use of outreach and representative or peer group health advocacy should be developed, keeping these intangible barriers in mind.

To achieve better utilization of services while also improving the health of Montanans, the ideal seems to be "the right service for the right person in the right place at the right time and at the right cost." While this is by no means possible for all people at all times, the methods for increased

*Dawson County is not the only home health agency that is under-utilized. Refer to the Home Health section for additional information.

utilization of services should develop around this goal, with the degree of flexibility necessary to best serve the varying needs of each community.

OBJECTIVE 1: To promote the coordination and cooperation of existing health-related programs.

Sub-Objective a: To research, develop and disseminate a model for coordination and cooperation among existing health-related programs by 1975.

Implementation: The local CHP Advisory Councils should organize an inter-agency council comprised of local health providers and representatives of each health-related program in their area, which would meet regularly to share information and develop strategy for further coordination and inter-agency referrals.

Sub-Objective b: To encourage health-related programs and local health providers to utilize health information and referral operations as they are developed.

Implementation: Each information and referral center should work closely with local health providers and local health-related programs to promote maximum utilization of existing health resources.

OBJECTIVE 2: *To improve efforts aimed at increasing awareness and understanding of the services provided the public by the Department of Health and Environmental Sciences.*

Sub-Objective a: *To identify all the individuals working within the Department whose responsibilities include providing information and education to the public on services provided by the Department.*

Implementation: Implementation of this is the responsibility of the Director of the Department of Health and Environmental Sciences.

Sub-Objective b: *To establish a coordinated public information program by combining the efforts of the soattered information people within the Department and forming a public information office attached directly to the office of the Director of the Department.*

Implementation: The Director of the Department should assign responsibility for conducting the review and for establishing a coordinated office of public information within the Department.

OBJECTIVE 3: *To promote increased education of the public as to the available health services in the area.*

Sub-Objective a: To study the utilization of health resources in communities and develop a plan for increasing utilization of those resources which appear to have low utilization rates by 1975.

Implementation: CHP local councils should recommend that local health-related programs conduct the utilization study for their program and develop a plan for action to increase utilization where deemed necessary.

Sub-Objective b: To promote the publication and distribution of health resource manuals for at least 20 communities across the state by 1975.

Implementation: Local CHP councils would be responsible for the appointment of a task force of local people to inventory health resources in their community and compile the data into a publication. State and areawide CHP staff would offer technical assistance.

Sub-Objective c: To promote the development of efficient health information and referral centers in at least five communities across the State by 1976.

Implementation: Alternatives--

1. Each local hospital board, in conjunction with local CHP councils and inter-agency councils, where they exist, should determine whose responsibility it shall be to organize an information and referral center for the area.
2. Social service groups could seek funds through the United Fund to sponsor an information and referral center staffed by volunteers.
3. Existing non-health-related information centers could expand, with financial assistance from community monies, to include health information and referral.

Sub-Objective d: To organize a community-based group of citizens representative of a cross-section of the community, known as health advocates, to be responsible for promoting continued and increased information on available health resources by 1975.

Implementation: Representatives from local health-related programs and local health providers could work in conjunction with appointed task force and local leaders

Implementation: (cont.) to assess and fulfill the need of health resource information on a continuing basis. These people would also be responsible for extensive dissemination of the resource manual and teaching consumers and providers how to use it.

HEALTH SERVICES

PROBLEM F: TOO LITTLE EMPHASIS IS GIVEN TO HOME HEALTH CARE AS AN ALTERNATIVE TO INSTITUTIONALIZATION.

DEFINITION

Home health care is a system of individualized health care delivered to patients in their homes by professional and allied health personnel. The services are organized and provided so that the patient is either restored to full health or achieves a maximal rehabilitation with the least possible disruption to his usual pattern of daily living.

Home care services are applicable to patients suffering from diseases and disabilities of all kinds. They apply to persons in all socio-economic classes. Home care may precede, follow, or substitute for institutional care.

Since the term "home care" has different meanings in different settings, it is useful to clarify the different types of home care services. Home care services are available from a variety of sources. They may be provided through: (1) a single service agency such as a homemaker-home health aide service program or a meals-on-wheels program; (2) a multiple-service agency that arranges for two or more types of services, such as home nursing care, physical therapy, and homemaker-home health aide; or (3) a coordinated home care program that arranges for a wide range of home services designated to meet the patient's individual needs through one centralized administration. The coordinated home care program also is responsible for planning, evaluation and follow-up procedures to provide medical, nursing, social, and related services to selected patients at home.

PROBLEM

Throughout the history of mankind, people in need of help during illness and disability have been in their homes for the greater portion of the time. Today, even with sophisticated diagnostic and treatment services in institutions, the greater need still exists outside these facilities. One has only to consider the prevalence and trend of chronic illness in our society to arrive at one very impressive gauge of this fact. The National Health Interview Survey of 1965 and 1967 found that 85.6 percent of persons over 65 and living at home had one or more chronic illness conditions; 46 percent of those 65 and over had varying degrees of limitation of major activity (inability to work, keep house, etc.) and nearly 5 percent were confined to the house.*

It is estimated that between four and seven million persons in need of long-term care are living outside of institutions. In "A Report to the Special Committee on Aging, United States Senate," prepared by Brahma Trager in April, 1972, Senators Church and Muskie state:

"For too long these vital services have been pushed to the sidelines. Their potential has not been realized. And this neglect of these services has caused us all to suffer in one way or another. The most

*While statistics on the aging are quoted here and elsewhere in this material, they are used because they are readily available and because the elderly have the highest incidents of chronic health problems which can be treated in the home. This is not meant to imply that home health should be a program only for the aging.

unfortunate victims have been the consumers who need their services."*

Our modern preoccupation with the organization, equipping, and financing of institutional care has led us to a disproportionate investment of economic and manpower resources in this area, especially in acute care facilities. These are an extremely important and vital part of our health care system, but we have neglected the adequate development of long-term care institutions and have almost ignored the home care field. The reasons for this are well known, and need not be more than mentioned here, but a partial listing would include:

- Technological advancements which require patients to come to a given facility;
- Urbanization and transportation facilities bringing people within reach of medical center institutions;
- Third-party payment which fosters hospitalization;
- Relative ease of gaining contributor and government support for the visible "bricks and mortar" facility and for the dramatic application of medical advancements carried out in hospitals;
- Convenience and economical expenditure of time for physicians and other health personnel when patients are institutionalized;
- Lack of available family members to provide support services outside of institutions;
- Lack of available employees in the work force to provide housekeeper or companion services.

Development of long-term care facilities has been impressive in recent years, but there is considerable evidence that many of these facilities are being used inappropriately. Studies show that 20 to 50 percent of nursing home patients studied could have used less costly levels of care.

It is significant that the alarm over rising costs has triggered the limited, recent concern for fostering "alternatives to institutional care." Legislative action and support have been aimed at finding less expensive means of providing care, and this is entirely appropriate when the less costly avenues meet the patient's needs. However, costs cannot be the only consideration in providing care at any level. It is extremely important that a continuum of care be available, from the most sophisticated to the most simple, and that people have access to each level on a flexible basis according to need and effectiveness.

At present, home care services are for the most part so limited in scope and geographic availability as to seriously reduce such services as a viable

*Much of the material in the problem statement is based upon the Position Paper, Home Health Services: A National Need, adopted by the Governing Council of the APHA, November 7, 1973, San Francisco, CA, American Journal of Public Health, Feb., 1974, pp. 179-183. Appendix A of the Position Paper lists statistical sources.

choice for large numbers of people. Much greater financial and manpower resources must be invested in this area if people are to be served in the most effective way at a cost they can afford.

There are organizations and agencies which offer special pieces of this total complex of services, but coordination is often lacking. One individual or family sophisticated and knowledgeable in the use of agencies may be receiving a plethora of services, while another individual or family may not be able to obtain minimal services. Different eligibility requirements may interfere with an individual's ability to receive necessary services. For instance, an individual may be eligible for visiting nurse services dressing a wound, but not for housekeeping assistance. The lack of coverage for housekeeping assistance could mean that this person cannot leave the institutional setting because of inability to get food or prepared meals.

The insistence by third-party payers, whether private or governmental insurance carriers, as well as by many agencies, that no service can be covered or provided unless physician-prescribed may cut off many persons from procuring a service which, while not medically indicated from a disease-oriented standpoint, may be psychologically and socially necessary from a health supportive or disease preventive standpoint. While physicians are expert in the treatment of disease, they are often less expert in the care and assistance individuals may require to enhance or support functioning when it relates to disability. Nurses, physical therapists, and occupational therapists are far more knowledgeable in these areas.

Family members who are quite attentive and helpful while the person is institutionalized may grow weary and resentful of the constant responsibility, as well as the confinement or limitations upon their lifestyle because of the presence within the home of a chronically ill or disabled person. Roles and family relationships become disrupted and difficult to cope with in the absence of supportive assistance or counseling. Placement of the patient may lead to similar problems as well as a sense of isolation for the patient.

Changes in lifestyle and behavior patterns, or uprooting from a familiar environment, can be a causative factor in disorientation and can lead to aberrant behavior and secondary physical complaints and diseases, particularly in the elderly. No matter how good the institution, certain demands for conformity or standardization will be made upon the individual. To some extent, he must alter his pace and accustomed patterns to fit in with the group or the institutional regiment.

At least 10-25 percent of the population now in institutions of varying kinds could be cared for and remain in their own homes if organized services beyond episodic nursing and medical care were available. Some people are there because they require assistance with their activities of daily living, ranging from complete hygiene and feeding to minimal assistance in getting in and out of bed. Some are there because they do not have the physical reserve to maintain a clean and uncluttered environment. Some are there because they do not have family members to assist them, or because those family members can assist them for only a portion of any given day. Some are there because they require medications or treatments, the response and progress of which must be evaluated

on a daily basis. Some are there because they require treatments and medications which cannot be self-administered. Some are there because they need special types of equipment in order to function or to survive.

For want of a walker, an individual may be chairbound. For want of a therapist, an individual may lose the use of a hand or a leg. For want of a hydraulic lift, or individuals knowledgeable about lifting, a person may be bedfast. For want of delivery of an oxygen tank and instructions in the use of a mask or inhalator, an individual may remain within the confines of an institution, fearful of leaving. Our production line technological approach has extended to the care of the ill. We put them where the services are, rather than bringing the services to them.

In 1974, individuals are still being institutionalized and being maintained in institutions because of lack of adequate home care services, or where the services do exist, because of inability to pay for them or have them covered through some form of health insurance.

Here are some dramatic examples of how home care reduces costs:*

- If the stay in the hospital of one patient in twenty was shortened by only one day--at a daily cost of \$70--the total hospital cost to the American people would be reduced by almost 100 million dollars.
- During 1970 in Denver, Colorado, a total of 11,019 total hospital days were saved by using home care services. At Denver's \$95 per day hospital rate, this is a total savings in excess of over one million dollars.
- Because of the shortening of hospital stays for the first 5,000 Blue Cross patients in New York, costs were reduced by an estimated total of \$3,648,174.
- H.E.W. states that just a one-day reduction in hospital stays of Medicare beneficiaries in 1968 would have cut program costs by \$315,000,000.
- Home care is approximately 3.5 times less expensive than hospital care, according to these varied cost studies researched by NAHHA:
 1. Mt. Sinai Hospital, Milwaukee, Wisconsin, in a three-year research program, demonstrates that "for the groups studied, continued hospitalization was 3.8 times more costly."
 2. Blue Cross studied 5,000 cases served by Associated Hospital Services in New York, and reported that hospital costs were about 3.5 times more expensive than home care costs.

*National Association of Home Health Agencies, How To Economically Improve and Expand Health Care Services Using Comprehensive Home Health Care, mimeo, p. 7.

DEER LODGE
COUNTY HOME
HEALTH PLAN

The following illustrates how one home health agency in Montana has benefited the citizens while saving money for the county.

Due to the lack of suitable nursing home facilities and the reluctance of senior citizens to be institutionalized, the Deer Lodge County Commissioners together with organized groups of senior citizens, designed and implemented a comprehensive health delivery system that is enabling home-bound, handicapped, elderly persons to stay in their homes or other places of residence as long as possible.

On April 15, 1973, the Board of Commissioners allocated \$15,000 of Revenue Sharing monies for a Senior Citizen Health Project. Shortly thereafter it became apparent that other problems were related to their health care needs including lack of proper diet, inability to prepare meals, lack of facilities in the home, need for shopping assistance and nutrition health education.

On April 30, 1973, county officials made available matching monies for a Title III Nutrition Project under the Older Americans Act. This project enabled the organized group of Senior Citizens to establish a congregate meals site to serve the mobile elderly one meal per day, five days a week and home delivered meals to the immobile, handicapped home-bound elderly who would otherwise have to be institutionalized.

Other supportive services were instituted, such as handyman, homemaker, telephone reassurances, friendly visiting, escort and transportation.

Within the past few months noticeable changes in attitudes are increasing commitment from the public at large, especially among the Senior Citizens themselves.

Though it is difficult to evaluate the worth of a program which enhances self-sufficiency, decreases loneliness, and affects people's well-being in a myriad of ways, the program can be examined in terms of cost savings. The total cost of the program for one year serving the total population of elderly persons in Deer Lodge County (4,200 over 55 years of age - 1760 over 60 years of age) is \$113,000 (includes mobile and home-bound). Of the 88 home-bound, 36 would be institutionalized with 22 having to rely upon county funds to pay for institutionalized care. Based on the minimal cost per year per person, the total cost of the 22 people would be \$118,800 or \$5,400 per year per person. The cost for in-home support services per year for the 22 is approximately \$380 per person.

In talking with the Senior Citizens themselves regarding the program and projects, they feel that there are two reasons this is a successful program. (1) It is supplying a real need (basic biological needs), and (2) they have been involved in the decision-making process in all aspects of the program. (All but two of the paid employees are Senior Citizens themselves.)

CURRENT
STATUS

At the present time there are ten certified* home health agencies in Montana. They are Columbus Hospital Home Health Unit, Great Falls; Montana

*In order to be certified the agencies must comply with federal standards in order to receive Medicare and other third-party payments.

Deaconess Home Care Program, Great Falls; Dawson County Health Department, Glendive; Flathead County Health Department, Kalispell; Lewis & Clark County Home Health Agency, Helena; Missoula City-County Health Department, Missoula; Ravalli County Health Department, Hamilton; Richland County Health Department, Sidney; City-County Home Health Services, Butte; Yellowstone County Home Health Agency, Billings.

The two agencies in Great Falls are hospital-based programs. All the other agencies are affiliated with a local health department, or are established as an independent public agency. Agencies in Great Falls serve the metropolitan area there; all other agencies theoretically serve the entire county in which they are based.

All the agencies offer nursing services, seven offer physical therapy, six offer speech therapy, and seven offer home health aide services.

The agencies receive fees from private patients and Medicare-Medicaid reimbursements. There have been a few instances of private insurance coverage for home health services. This lack of community funding may mean that an individual cannot be visited, if the service is not covered by Medicare or Medicaid and if the person cannot pay for a visit out of his own pocket. The Silver Bow County Agency has developed a graduated fee schedule for persons not covered by Medicare or Medicaid to ease this situation.

In addition to "certified" home care in Montana, Deer Lodge and Granite Counties both provide local funding for home services. There are no direct charges to the patient, nor is reimbursement sought from Medicare or Medicaid. The Deer Lodge agency is described above. Granite County has employed a nurse on a part-time basis, and she is primarily visiting senior citizens in their homes to give nursing care.

In some other counties limited home nursing care may be provided by community health nurses. Often it is limited because it is physically impossible for a public nurse to offer complete home health care throughout the vast geographic area. In other cases the traditional focus of public health nursing on preventive care has precluded the development of complete home health service.

There is one proprietary home health agency located in Billings and serving Yellowstone and Carbon Counties. Called "Homemakers", it is one of 175 offices of the Home and Health Care Services of Upjohn Pharmaceutical Company. It offers a full range of services from a staff of R.N.'s, L.P.N.'s, aides, home managers, housekeepers, and live-in companions. "Homemakers" serves an average of 20 - 25 different persons each week for 300 - 400 hours weekly. The agency does not receive Medicaid or Medicare reimbursement since proprietary agencies must be licensed by the state in which they operate and Montana has no home health care licensing legislation.

Although more than 50% of Montana's population presently has access to home health services, most of the existing agencies are under-utilized. According to the State Department of Health, Bureau of Nursing, the estimate which is generally used to project potential utilization of home health agencies is that 10% of the population over 65 years of age in an area can benefit from home health services at any given time (in addition to younger, home-bound individuals). If we examine the utilization rates for two of Montana's home

health agencies, we find the following: in Dawson County, an average of 20 individuals is visited each month. Yet, 1970 census figures indicate that Dawson County has 994 residents over 65 years of age. Using the formula suggested above, there are 99 persons over 65 years of age who could benefit from home health services. In Flathead County, an average of 53 individuals is seen monthly. Again, there are 4,124 persons over the age of 65 in the county, making a potential utilization rate of 412.

OBJECTIVE 1: To increase the utilization of existing home health care agencies to 150% of their current rate of utilization by 1978.

Sub-Objective a: To provide a statewide public information program about home health care by 1976.

Implementation: CHP, the Bureau of Nursing, and the Bureau of Health Education should have responsibility for this. Their first effort should be to prepare a series of news releases describing home health care, successful Montana agencies, and how to start a new agency; and to prepare a pamphlet describing these. Pamphlets should be available for dissemination by home health agencies and at appropriate public meetings.

Consideration should also be given to establishing a speaker's bureau on the subject of home health which would provide speakers for civic groups and radio talk shows and to developing a seminar which would be offered in each CHP area-wide location concerning home health care and how to establish an agency.

Sub-Objective b: To form citizen auxiliaries to each existing home health agency to publicize the agency it serves.

Implementation: Home health agency staffs, County Councils on Aging, and local CHP groups should organize the Citizen Auxiliaries.

The first task of the Citizen Auxiliaries should be to educate providers, particularly physicians and hospital administrators, about the agency and promote referrals from them. The Citizen Auxiliaries should also educate the public about the availability of the agency's services, provide feed-back to the agency regarding home health needs which suggest expansion of current services or improvement in services, and assist the agency in volunteer capacities such as fund raising.

Sub-Objective c: To encourage health insurance carriers to provide benefits for services offered in the home if they are covered as hospital benefits.

Implementation: New York and Arizona have passed bills to accomplish this. Other states are considering such legislation. The newly formed statewide group, suggested in G.2.b. below, should consider the appropriateness of this for Montana. If deemed appropriate, the group should arrange

to have legislation drafted, locate a sponsor for the bill and design a support strategy.

The other alternative would be to prepare a fact sheet for insurance carriers on home health and cost savings and to contact the insurance companies with this information. Interest among insurance carriers in home health is growing. The Montana Physicians Service is currently running an experimental project in Butte offering coverage for home health to the public school teachers they serve.

Sub-Objective d: To assess the need for ancillary services (e.g., home-maker, nutritionist, transportation) and solicit community sponsorship of needed services.

Implementation: The existing home health agency staffs would assess the need. Civic groups and the Citizen Auxiliaries would raise funds necessary to sponsor needed services.

OBJECTIVE 2: To extend availability of home health care services by 1978 to 20% more of Montana's population than is currently served.

Sub-Objective a: To determine locations for new home health agencies by 1976 and to establish three new home health care agencies by 1978.

Implementation: CHP and the Bureau of Nursing, with the assistance of County Councils on Aging and the local Social and Rehabilitation Services office, should establish by 1976, ten citizen groups* within prospective geographic home health service areas. The citizen groups will have responsibility for the following:

- examining the need for and feasibility of establishing home health care services within their areas
- if needed and feasible, designating the most appropriate local agency to be responsible for developing the service**
- assisting the chosen agency with investigating funding possibilities
- educating the public about the benefits of home health services***
- educating the providers about the benefits of home health agencies
- reporting their activities to CHP areawide organizations

At least three of the areas which pass the "feasibility test" should have home health services by 1978.

*Every effort should be made to involve the local medical society, the district organization of the Montana Hospital Association, and the Montana Nursing Home Association. Successful home health programs depend upon referrals and discharge planning programs which are the responsibilities of these groups. Nationally the American Medical Association and the American Hospital Association have taken positive positions on the need for home health services and the importance of involvement of professional members of their association in their development.

**Several comments were received during the preparation of this document indicating that in the parson's opinion, home health services are rightly offered from an institution or from the public health department. It is felt that this decision belongs in the community and depends upon what is needed and desired by the people there.

***Several of the tasks here correspond to those falling to the Citizen's Auxiliaries created for existing home health agencies under G.I.b above. The citizens groups created here to study the feasibility of opening a new home health agency would be ideal candidates to become the Citizen's Auxiliary of a new home health agency they have been instrumental in establishing.

Sub-Objective b: To establish a statewide group to monitor development of home health services and make recommendations for expansion.

Implementation: Preliminary steps have been taken by individual staff members of existing home health agencies to establish a Montana chapter of the National Association of Home Health Agencies. Efforts should aim at making this a reality. The purposes of the chapter will be:

- to foster and maintain high standards of patient care through home health services
- to educate the public, its governing bodies and health professionals in the all-important practical and emotional advantages of home health care, both in services and economics
- to promote methods of financing home health services to provide better care for more people at less cost
- to provide an organized and unified voice for the growing number of home health agencies

HEALTH SERVICES

PROBLEM G: THERE IS NO UNIFORM STRATEGY FOR ASSESSING THE DEVELOPMENT AND IMPLEMENTATION OF MENTAL HEALTH SERVICES IN MONTANA.

At the present time there are efforts by the Community Services Division of the Department of Institutions to undertake the development of a new Mental Health Plan for Montana. Comprehensive Health Planning, however, recognizes that a State Plan for Health would be deficient if no attempt were made to include some content dealing with mental health. Therefore, a group of persons who are active in the Montana Mental Health Association were convened to discuss their concerns about mental health services in Montana and to specifically review the recommendations contained in the 1965 Mental Health Plan to determine which of these are still appropriate and should receive attention in 1974.

After "brainstorming" about the recommendations which they found to be most important, the group submitted their ideas to CHP staff. The staff collated the suggestions and mailed them to the participants in the first "brainstorming" meeting to assure that they read as intended. Subsequently, they were sent to respondents to CHP's letter requesting indications of interest from persons across the state to review Plan material (see Appendix C for copy of this letter). Upon receipt of comments from these persons, the recommendations were refined further and are found under the implementation statement following.

It is hoped that readers of the State Plan for Health will appreciate the equal significance of mental health along with physical health if "health" is to be considered comprehensively. It is due only to limitations of staff, time, and historical reasons that mental health has not been afforded planning efforts equal to physical health by Comprehensive Health Planning in Montana. It is anticipated that the State Plan for Mental Health will stand as a companion document to the State Plan for Health for a total view of what should be done in Montana in regard to total health services.

In 1965, a Montana Plan for Mental Health Services, prepared by a statewide and community Mental Health Planning Committee and its staff, was published. Unfortunately, this fine plan was funded by a grant which provided only for plan development with no provision for a group to monitor its implementation. As a result, the plan did not receive the recognition it was due.

There is a Montana State Plan for Community Mental Health Centers Construction* which is used to determine construction standards, but there is no document which deals comprehensively with mental health services in Montana.

*Prepared by the Division of Hospital and Medical Facilities, State Department of Health and Environmental Sciences, revised in 1969.

OBJECTIVE 1: To prepare a State Plan for Mental Health Services in Montana by 1976.

Implementation: This should be done by the Division of Community Services of the State Department of Institutions. Its preparation should involve a broad base of providers and consumers of mental health services, and it should incorporate a strategy for implementation.

The writers of the document should take into consideration the following recommendations for inclusion in the plan:*

1. The provision of comprehensive community care** should be emphasized. Toward this end, comprehensive community mental health centers should be developed, and outpatient mental hygiene clinics and psychiatric services in general hospitals should be expanded.
2. Overall coordination of mental health programs in Montana should be recognized as central to the success of the programs. Coordination should occur between all agencies and individuals having mental health responsibilities including schools, clergy, physicians, welfare offices, rehabilitation programs, public health nurses, and law enforcement officers.
3. A comprehensive program of public education and information concerning mental health problems and services available should be established. In addition, efforts should be increased to teach the general population more about human behavior and ways to promote positive mental health.
4. Provision for more adequate prevention and early treatment of mental health problems should be made.
5. Diagnostic and remediation services should be accessible geographically and financially to all Montana citizens.
6. Effective planning should take place before any further money is spent on construction of new treatment facilities. In this regard every effort should be made to identify and support existing

*This is not a prioritized list.

**Including the five essential services of comprehensive community mental health centers--in-patient, out-patient, 24-hour emergency, partial hospitalization, and consultation and education.

Implementation:
(continued)

resources in a community before development of new mental health facilities is considered.

7. Since a significant portion of a child's life is spent in school, teachers and other school personnel have an opportunity to observe early symptoms of mental health problems if they are aware of the signs. Therefore, greater emphasis should be given in training programs to better prepare prospective teachers and other school personnel to recognize and refer, as early as possible, pupils deviating from normal growth, behavior and learning patterns. Another important aspect of training should include content on techniques to promote mental health.
8. Cooperation and agreement between federal, state, and local agencies should occur in developing programs for the care of persons with mental health problems.
9. Residential treatment facilities should be available for children with mental health problems who cannot be maintained in their homes. The nature and location of the facilities should be determined in the Mental Health Plan to be developed.
10. Programs should investigate the benefits of utilizing paraprofessionals, volunteers and other non-professional categories of manpower. In addition, non-traditional manners of delivering services should be considered, e.g., unusual office hours or locations.

HEALTH SERVICES

PROBLEM H: COORDINATION IS LACKING IN ALCOHOLISM AND DRUG ABUSE PLANNING AND ADMINISTRATION.

There are currently several state agencies responsible for the planning and administration of alcoholism and drug abuse programs in Montana. These include the Addictive Diseases Unit of the Governor's Office, the Montana Drug Program in the Department of Institutions, and the Alcohol and Dependent Drugs Bureau of the SDH&ES. At the present time there is no uniform strategy for developing plans and implementing programs. While the Montana State Plan for Drug Abuse Prevention and the Montana State Plan for Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation have been published, these documents do not present a clear strategy for addressing the problems of alcoholism and drug abuse statewide (see Appendix H-1). Staff with responsibility in the addictive diseases should meet together to address the problems of coordination and plan development.

OBJECTIVE 1: To develop a uniform strategy for the planning and administration of addictive disease prevention and treatment by July, 1975.

Implementation: A system of communication and the delegation of responsibility among addictive disease planning and administration agencies are necessary to maximize the effects of the resources. Since the Lieutenant Governor has convened the staffs of the above offices, in reference to the formation of an Advisory Council for addictive disease programs, it would be preferable if he continues to provide leadership in seeking coordination among these groups.

PROBLEM A: THERE ARE NOT ENOUGH PROVIDERS OF PRIMARY HEALTH CARE IN MONTANA.

PRIMARY
CARE
DEFINED

In order to discuss the above problem, it is first necessary to understand what is meant by "primary health care." Primary health care occurs upon a person's first encounter with a health care system, and it involves the application of health services appropriate to the patient's level of entry. Primary health care can include illness prevention and health maintenance measures in addition to health assessment and diagnostic services, treatment services and case management services which afford an ongoing and continuing responsibility for the patient's care.*

Since physicians do presently and will continue in the foreseeable future to play a central role in the delivery of primary health care, a survey of the health manpower shortage in this area may illustrate the magnitude of the problem. Here is the situation:

	Physician/Population Ratio	
	Montana**	U.S.***
General Practitioners	1/3068	1/2546
Internists	1/10,154	1/4437
Pediatricians	1/26,703	1/10,323

Debate continues around the country about whether there is a shortage of other categories of manpower which apply to Montana as well. Without assuming that an optimal ratio of providers to population has been determined, it is suggested that Montana should at least compare favorably with the U.S. average in all categories of primary health care professionals.

MANPOWER
SOURCES

If we consider the sources of supply for Montana's health manpower, we find two groups. First, there are persons raised and educated elsewhere

*This definition was worked on by the Health Manpower Committee. Another way to define primary care is to examine "What occurs at the Primary Care Level?" which is the approach taken by Dr. Alberta W. Parker in The Team Approach to Primary Health Care, University of California, Berkeley, 1972, pps. 12+. "1) The patient enters the health care system and a route is charted for his easy movement onto more complex and specialized levels. 2) Basic health care services are provided. 3) A mechanism is provided for continuing case management and coordination."

**Based on 1973 figures using census estimate of 721,000 Montana population and numbers of physicians prepared by Comprehensive Health Planning.

***Based on 1971 figures using census estimate of 206,256,000 U.S. population, HEW, Health Resources Statistics, 1972-73, p. 194.

who locate in Montana. Second, there are persons raised in Montana who choose a health career and are either educated here or elsewhere depending on Montana's educational opportunities in their chosen field. By far the greatest numbers of Montana's primary health manpower (except for nurses) currently come from the former group.*

LONG-TERM MANPOWER STRATEGY

It is suggested here that native Montanans represent the best investment in the long run to meet Montana's health manpower needs because they know Montana's way of life and its problems and would therefore tend to remain here. The ingredients necessary to enable Montana's youth to become Montana's health manpower include 1) interesting them in health careers, 2) assuring qualified applicants access to educational programs within and outside the State and 3) providing incentives to attract the trained health manpower personnel back to the State. While this approach should represent the long-term emphasis, it will take time. Meanwhile, the focus should be on attracting persons from other areas. As might be imagined, much of the work done to enhance the situation for persons from other areas would better the possibility of retaining Montana natives as they begin to practice here. The ingredients necessary to attract outsiders to the State include: 1) promoting the knowledge of Montana's appeal among students and practitioners in the health careers, 2) providing incentives for persons to locate here (e.g., scholarships with service commitments, monetary guarantees, etc.) and 3) providing supports which will make practice here more attractive (e.g., continuing education opportunities, opportunities for peer interaction, back-up for off-hours through a team approach). See Figure 1.

SHORT-TERM MANPOWER STRATEGY

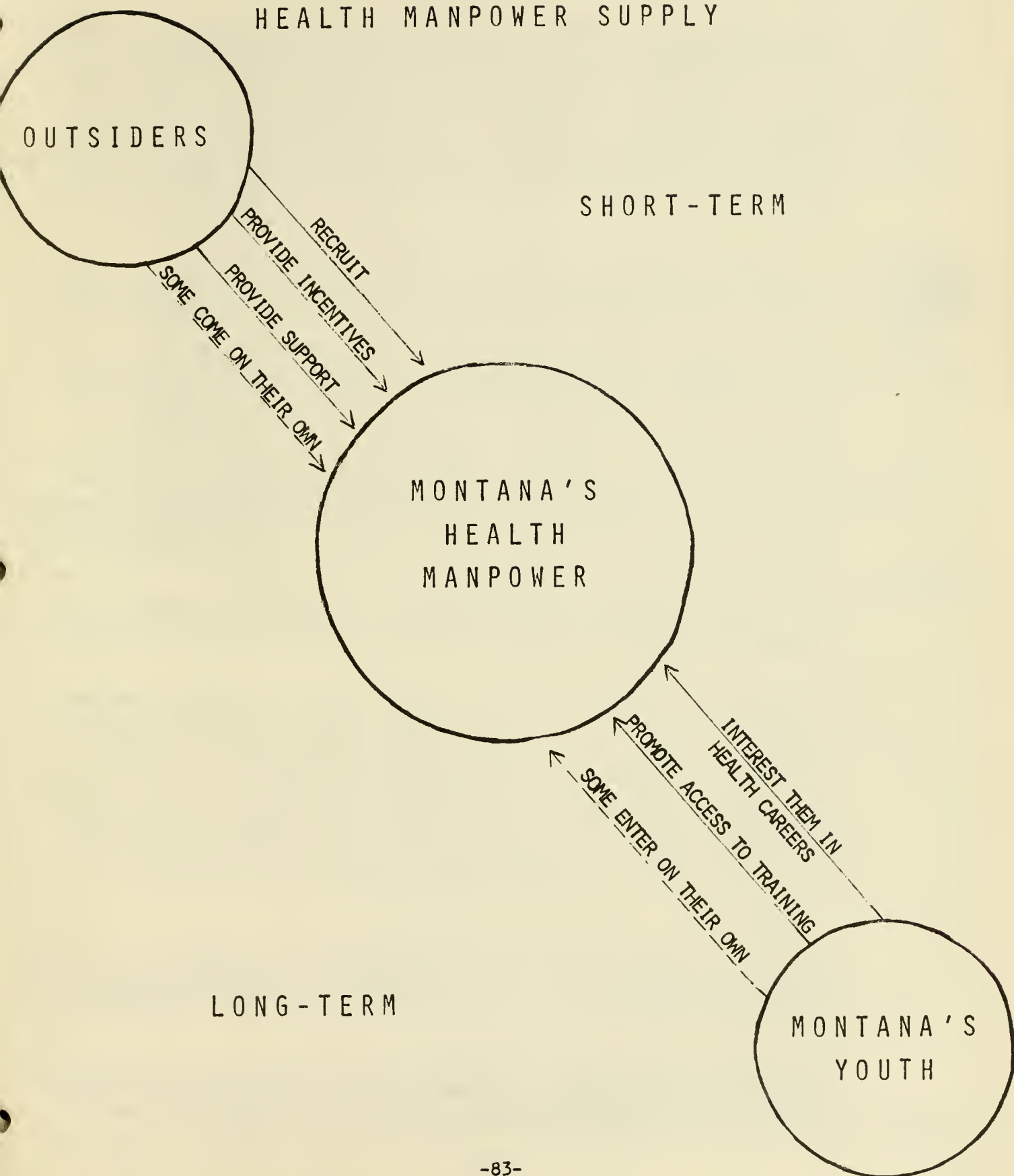
In regard to the short-term strategy, the recruitment of primary care personnel from outside the State has posed problems for individual Montana communities in the past. One problem is that recruitment is more highly competitive today than it was a few years ago, and few citizens from rural communities are aware of the attractions and supports which other communities are offering candidates. Another most important reason is that citizen committees which are faced for the first time with searching for a physician lack sophistication in the recruitment process, as well as access to training programs in order to begin to compete with other communities for health manpower personnel. These factors are exacerbated by the problem that knowledge about Montana is limited in most parts of the United States, particularly in the East where the majority of training programs are located. When people do know something about the state, it is often myths or its extreme features of which they are aware (such as the fact that Cut Bank registers some of the coldest temperatures in the nation).

Sheer distance from health manpower sources militates against any single Montana community's tackling these problems. It seems propitious for these and other reasons to embark on a statewide recruitment effort for providers of primary care.

One of the pieces of information the recruitment office would need in

*In the past most of Montana's health manpower, both native Montanans and outsiders, have found their own ways into health positions here. Hopefully, they will continue to do so. The discussion here concerns a coordinated, planful attempt to facilitate the entry of others into health positions in Montana.

STRATEGY FOR INCREASING MONTANA'S HEALTH MANPOWER SUPPLY



order to assist communities is what importance the provision of guarantees and supports plays in attracting manpower.

Montana's rural communities in search of health manpower are reminded continually that they must compete with other communities around the country for scarce health manpower resources. Fantastic stories are told about what other areas are offering physicians to locate in their communities. Little is known, however, about the relative importance of guarantees in attracting manpower. In order to be able to compete favorably, reliable information should be available to community groups in Montana. In addition, much grief could be spared communities which invest great amounts of money constructing clinics and hospitals if it were established that these attractions are not of primary importance in recruiting physicians.

MONTANA EDUCATIONAL OPPORTU- NITIES

The situation with regard to Montana students and educational preparation for primary health care careers is that much of it is available only through professional schools and health care facilities outside the State.*

If a single overriding problem can be identified, it is that of access to these programs by Montana students. It appears that in many cases the real bottleneck, both for the student who wishes to pursue a particular career and for the state which needs trained people in all health care areas, is obtaining admission to an out-of-state professional school or internship program. There is a rapidly accelerating trend for these institutions to place smaller and smaller quotas on out-of-state students, and at the same time expect the sending state to pay an amount which corresponds more closely with the full cost of the education and training program. Montana must move to protect opportunities for health care education which are not available in the state.

The costs of establishing and operating professional schools of medicine, osteopathy**, and dentistry appear to be far beyond the fiscal abilities of a state of 700,000 persons.

The cost of construction for a medical school, for example, has been estimated at approximately \$1-2 million per student. The cost of maintaining a medical school has been estimated at an average cost of from \$12,000-\$13,000 per student per year, but estimates at some medical schools in the United States have gone as high as \$26,000 per student per year. For medicine alone, the Faulkner report of 10 years ago showed that the four states of Montana, Wyoming, Idaho and Nevada possibly could support one medical school between them. The problem of a school supported by taxes of four states being located in any state makes this a political improbability.

*Much of the following narrative and the sub-objectives concerning the WICHE and WAMI programs are taken from the Report of the Technical Group on Health Care Education prepared for the Montana Commission on Post-Secondary Education, May, 1974.

**Recent legislative changes allow osteopathic physicians to take the medical licensing examination and, if successful, to practice medicine in Montana. In addition, the statutes provide reciprocity for osteopathic physicians licensed in other states since 1955.

Two programs have sought to address the problem of access for Montana students. They are the WICHE student exchange program and the WAMI program.

WICHE

The Western Interstate Commission for Higher Education (WICHE) Student Exchange Program is an arrangement by which a student from a state without a school in the professional field of the student's choice is certified by WICHE and is subsidized by his home state for each year of education at such a professional school in one of the 13 WICHE states. The student must meet residency requirements for WICHE certification and preference is given to students who have accomplished their pre-professional training in Montana. WICHE does not give the student assistance in applying for or gaining admittance to the professional school of his choice. This he must do on his own.

While the WICHE Student Exchange Program has not totally solved the problem of availability for entrance into schools of medicine, dentistry, veterinary medicine, dental hygiene, physical therapy, occupational therapy, optometry and podiatry, it has done more than any other program to date. The effectiveness of the WICHE Program is limited by the number of places out-of-state schools will reserve for Montana students, and this may be the beginning of a trend toward requiring the full cost of instruction for WICHE students. However, this program is unique and extremely important to the State.

Since the program has been in operation, from 1953-54 through 1973-74, Montana has funded a total of 1,315 student years in the above-mentioned health education fields. The financial outlay for the State has been \$2,809,634.

The amount of support fees transmitted by each sending State sponsoring a WICHE exchange student to the schools admitting the students is as follows:*

Medicine	\$5,000 per student year
Dentistry	4,000 per student year
Veterinary Medicine	4,000 per student year
Dental Hygiene	1,000 per student year
Physical Therapy	1,200 + clinical fees per student year
Occupational Therapy	1,200 + clinical fees per student year
Optometry	1,200 per student year
Podiatry	2,500 per student year

*Projections indicate that these costs will increase in the near future.

The WAMI Program (an acronym for the four participating states of Washington, Alaska, Montana and Idaho) permits states without medical schools to avoid prohibitive construction costs by using already existing facilities (in our State, Montana State University) and by utilizing community physicians as medical faculty for varying periods of time. Students are permitted to take the first portions of their medical training at MSU, and then transfer to the University of Washington School of Medicine for the balance of their basic curriculum. At the conclusion of their first two years, the students receive part of their training at UW and part in "community clinical units" with participating local physicians in the communities where the physicians live and practice. These units have been established to provide non-metropolitan educational experiences in primary care practice.

If the goals of the WAMI Program are to be accomplished, the individual states participating in the WAMI Program must assume some financial responsibility. The original financing of the program came from a combination of private institution and federal funding. That funding is scheduled to end entirely by June, 1975. It is estimated that the State of Montana must contribute approximately \$250,000 per year to fund the Montana WAMI Program. This figure is based on 15-20 students at 10-12 thousand dollars per student.

In addition to the WICHE and WAMI Programs, it is felt that other avenues should be explored relative to access for Montana students to schools providing education in primary health care careers. This would entail investigating arrangements for Montana students to attend professional schools outside the WICHE region. Some precedent for this was provided by the passage of the Rural Dental Act during the last legislative session which set up an arrangement for admission for Montana dental students to the University of Minnesota.

OBJECTIVE 1: To increase the number of providers of primary health care to a provider/population ratio equal to the national average.

Sub-Objective a: To establish a statewide recruitment and placement service for primary health care personnel by 1976.

Implementation: This program must be active with outreach. Staff should do more than simply respond to inquiries. Staff should prepare or utilize existing material on Montana; distribute it to students and practitioners; visit communities and know their needs and characteristics; and work with communities prior to placement of personnel to encourage a situation which is conducive to keeping the recruited personnel in the community.

There are three possible auspices for the program: 1) private, 2) public and 3) a combination of public and private. If the program were placed with a private agency, the costs would be born by the community contracting for the service. One private concern in Montana has begun recruiting physicians for communities, and it charges 10% of the physician's first year's income. If this option were chosen it might provide a hardship upon less wealthy communities.

Another possible auspice would be to place the service within a department of State government such as the Employment Security Div., the Dept. of Health and Environmental Sciences, or the Governor's Office. Advantages to this arrangement include the ability to develop a long-range, uniform statewide approach with community work beginning at the time a community anticipates future health manpower needs. Also this auspice would assure the provision of equal services to all communities regardless of their ability to pay. Funding for a public program could be sought from out-of-state sources on a demonstration basis. If the project were successful, State funding could be sought.

Another alternative would be for the State agency to contract with a private group for implementation of the project. The State agency would then monitor the work of the private group.

Of the three alternatives the most appropriate auspice would seem to be the State Dept. of Health and Environmental Sciences and CHP particularly, since it is now involved in advising communities about physician recruitment and it would be easier to expand its activities than to create a new office.

Sub-Objective b: To study the benefit of providing guarantees (salary, equipment, office space, living quarters) to attract physicians, dentists, etc. and to disseminate the findings to communities in search of manpower by 1975.

Implementation: This study should involve a literature search and possibly a survey of physicians to determine what guarantees they received and the relative importance these played in their final decision to locate in a community. The literature search could be conducted by CHP staff. Dissemination of the findings could be made through the CHP Newsletter.

OBJECTIVE 2: To increase the opportunities for Montana students to enter primary health care professions.

Sub-Objective a: To continue financial support of the WICHE student exchange program and increase its level of support as required.

Implementation: Support for the WICHE Program should be communicated by the CHP Advisory Council to the office of the WICHE Coordinator with an offer of assistance from CHP's Health Manpower Committee to the Coordinator in whatever manner he might suggest if the program ever is in jeopardy of continuing at a level necessary to meet Montana's needs.

Sub-Objective b: To appropriate funds for the WAMI Project during the 1975 legislative session and to continue to fund it thereafter as long as Montana students are educated by it.

Implementation: The two alternative approaches which might be considered for this support are a) an annual legislative appropriation and b) establishment of an endowment fund. Because there is no readily identifiable organization which would be able to raise the enormous fund, it is felt that a legislative appropriation is preferable.

Securing a legislative appropriation would involve drafting legislation, finding sponsors to introduce it, and obtaining support for it. The groups which should take the leadership in this effort are the Montana Medical Association and the Montana Academy of Family Practitioners. CHP and communities which see a need for increased primary care providers should lend their support in whatever manner the lead groups deem appropriate. As with other pieces of legislation supported by CHP, this could include preparation and dissemination of a fact sheet on the Bill, keeping people advised of hearings on the Bill, writing letters of support to the legislators, etc.

Sub-Objective c: To establish a program by 1976 to attract Montana's youth to primary health care careers.

Implementation: Three approaches can be considered to accomplish this sub-objective.

1. Prepare a pamphlet for distribution to junior high and high school students* providing a description of primary health careers with introductory

*While arguments to aim the pamphlet at younger students, or college students, could be made, it was decided that junior high and high school students are an appropriate audience for the initial effort. Later programs should aim at other age groups.

Implementation: (Continued) information on education preparation needed for each career, what the job market is like, personal qualifications needed, and where to obtain more information. Much of the material for this type of publication can be found in the Student-Counselor Health Careers Guidebook prepared by Mountain States Regional Medical Program.*

The preparation of the pamphlet would be a one-time effort and subsequent cost would relate only to the price for reprinting the pamphlet. The Bureau of Health Education within the State Department of Health and Environmental Sciences could provide the staff necessary to prepare the pamphlet. Distribution of the pamphlet would be through the Department of Public Instruction, providers of primary health care, and through local public health departments.

2. Designate a "Health Careers Month" each year in Montana and design a media campaign for presentation during this month to include radio and TV spots** (public service announcements) and news releases.

The "Health Careers Month" could be proclaimed by the Governor and the Bureau of Health Education could prepare the media campaign contacting radio, TV, and newspapers for coverage.

3. Establish a clearinghouse for students to obtain additional information on health careers. This could be done by the Montana Health Association, the Department of Public Instruction, or as an added service through the SDH&ES Hotline. In any case, someone should be designated who could retrieve the type of information requested. If the project were successful, it is estimated that it would require approximately 10% of a staff person's time to keep abreast of information sources and answer students' questions.

*It is possible that a pamphlet is available from some national organization which could be adapted for use in Montana. This should be investigated.

**Again, available resources should be utilized. St. Vincent's Hospital in Billings has been active in promoting health careers in the Billings area. Their experience should be helpful for planning a statewide program. Efforts should also be made to either find an existing film or develop one introducing the broad range of health careers to prospective students. Usually films cover only one health profession, and at least one film is needed which presents an overview of the whole field.

Sub-Objective d: To study by 1976 the feasibility of "buying" places in out-of-state (and out-of-WICHE Region) professional schools and training programs for which Montana cannot establish educational programs within the State.

Implementation: The Report of the Technical Committee on Health Care for the Commission on Post-Secondary Education identifies careers for which access is a problem. They include medicine, dentistry, veterinary medicine, and physical therapy.

A Task Force convened by CHP could prioritize these careers relative to Montana's needs and direct CHP staff to investigate the feasibility of buying access in out-of-state schools. Follow-up would depend upon the findings of the study.

HEALTH MANPOWER

PROBLEM B: THERE IS A MALDISTRIBUTION OF PHYSICIANS AND OTHER HEALTH MANPOWER IN MONTANA.

CURRENT SITUATION

While the three most populous counties (Yellowstone, Cascade, Missoula) in Montana account for less than one-third of Montana's total population, 49% of Montana's physicians are located in them, 42% of Montana's dentists, 41% of Montana's R.N.'s and 50% of the state's sanitarians.

Furthermore, there are six counties in Montana with a total population of 9,765 which have no physicians. There are thirteen counties with a total population of 30,057 which have no dentists.

Two approaches can be taken to this problem. First, efforts can be made to attract new health manpower to scarcity areas through the provision of incentives and other attractions. Second, supports can be provided for health manpower in the area so that they will stay, thereby preventing future maldistribution problems.

The following objectives and sub-objectives are readily understandable except for those concerning the use of physician extenders. Since this is a relatively new category of health manpower, some detail is required for an understanding of their potential utilization.

PHYSICIAN EXTENDER

The two groups of physician extenders which have emerged on the scene nationally and in Montana within the past few years are nurse practitioners and physician's assistants. Both are useful adjuncts to physicians in carrying out a variety of tasks which free the physician to devote his time to more specialized work.*

Nurse practitioners are R.N.'s who have received additional training to enable them to function in an expanded role. There is a training program for Family Nurse Practitioners at Montana State University, Bozeman. It was started in 1972-1973 and graduated eleven nurse practitioners last year. The program aims to train nurses who will return to rural areas. All of the graduates have been employed in the capacity of nurse practitioners, seven of them in Montana. The program has been funded by the National Institutes of Health through June 30, 1975. After that time state funds will be necessary if the program is to continue.**

Physician's assistants come from a variety of backgrounds, oftentimes having served as medical corpsmen (this is an entrance requirement for MEDEX programs). There is no training facility for physician's assistants in Montana, and there is little chance of establishing one here due to cost. The MEDEX program associated with University of Washington Medical School has stated that it would cost a minimum of \$250,000 to establish a training

*For explanation of differences in background and training between PA's and nurses see article, "A Look at the Physician's Assistant," Appendix E.

**In addition to the Family Nurse Practitioner Program, the baccalaureate curriculum for nurses at Bozeman and other nursing programs in the state have incorporated content to prepare nurses for expanded roles.

program for the physician's assistants in Montana. Also, there are some who feel that this type of program is most appropriately established in connection with a medical school. While there is little chance of Montana students being accepted to existing programs due to competition (University of Washington accepts 20 out of 1,000 applicants and University of Utah accepts 15 out of 1,800-2,000 applicants), PA's from other states have chosen to locate in Montana. There are presently more than a dozen PA's practicing here. Since physicians have differing needs and requirements for extenders they could best use, both nurse practitioners and physician's assistants should be available for them to employ.

The legal status of nurse practitioners causes no problem because they are licensed as R.N.'s and function within the definition of the Nurse Practice Act. The legal status of PA's in Montana, on the other hand, is a confusing situation. First, there is some question about whether physicians are allowed to use them at all. Second, if it is lawful for them to practice under Montana's physicians, there is some question about just how much a physician can delegate to them. For physicians to utilize them to their fullest capabilities, legislation clarifying their status must be forthcoming.

SB 202 which aimed to legalize the utilization of PA's by physicians was introduced in the 1973 legislative session and was defeated in the 1974 session. SJR 53 providing for a study of PA's was passed but was not determined to be a priority for study by the Legislative Council.

There is some question about whether physician extenders will help to alleviate the health manpower distribution problem in Montana since they must be supervised by and responsible to a physician. This precludes their placement in areas of the state where there are no M.D.'s or where the M.D.'s do not wish to utilize them.* In this respect, their utilization will not effect distribution. On the other hand the use of physician extenders could affect the length of stay of overworked primary care solo practitioners in rural areas. If the availability and employment of physician extenders would lessen the pressure on the solo practitioner, fewer might leave rural practices. Future maldistribution problems might be avoided by this staying action.

Another question which is often raised about the utilization of physician extenders is whether they will lessen the cost of treatment. Unfortunately, at the present time physician extenders do not affect the cost of treatment since the fee-for-service charged by the physician remains the same whether the patient is seen by only the physician extender, the physician or both. Efficiency is affected, however, by the use of a physician extender since he enables the physician to function on the highest level at which he is effective, as the physician extender assumes less exacting tasks for which he has been prepared.

*The community nurse practitioner at the SOS Health Center at Seeley Lake is a unique situation set up to test the feasibility of a nurse practicing in an area without supervision from one physician. For more information on this see Health Manpower Problem C.

OBJECTIVE 1: To provide incentives for health manpower to locate in scarcity areas.

Sub-Objective a: To study the feasibility of attaching a service commitment to the WICHE and WAMI programs by 1975 and to make recommendations to the legislature relative to the findings by 1976.

Implementation: There is conflicting evidence about the success of attaching service commitments to scholarship programs. Many of these programs have fallen short of their anticipated goals. At the same time there are instances of programs which have placed a considerable number of the participants in health manpower scarcity areas. These programs should be examined to assess the possibility for their replication in Montana.

Another factor which should be considered in designing a program for Montana is the effect of federal programs which provide incentives for health manpower graduates to locate in scarcity areas.

This study could be conducted by a consultant or by a graduate student in health planning. The results could be considered by the Health Manpower Committee or a Task Force in order to prepare recommendations for the Legislature.

OBJECTIVE 2: To provide supports for health manpower serving in scarcity areas to avoid future maldistribution problems.

Sub-Objective a: To provide state funds to continue the Family Nurse Practitioner Program at Montana State University at its present stature past 1975.

Implementation: Legislation will be required to provide state funds for continuation of the Family Nurse Practitioner Program. The budget for one cycle of the nine-month program is \$36,500. This provides for an enrollment of ten students who spend a fall quarter on the Bozeman campus for classroom work, a winter quarter on the extended campus in Great Falls for clinical experience, and a spring quarter in the student's hometown for field experience with the local physician serving as preceptor.

The Montana State University, School of Nursing; Montana Nurses Association; the Montana Medical Association; the Montana Commission on Nursing and Nursing Education; and CHP should cooperate in drafting legislation, locating a sponsor, and providing necessary support after the Appropriations Bill is introduced.

Sub-Objective b: To pass legislation by 1976 making legal the use of physician's assistants by physicians licensed to practice medicine in Montana.

Implementation: The fact that there are more than a dozen physician's assistants now practicing under duly licensed physicians in Montana, coupled with their questionable legal status, makes it imperative that legislative action be taken as soon as possible.

While the Montana Medical Association and the Montana Nurses Association are undertaking a joint study of the entire physician's assistant concept, more direct action is necessary to move toward the introduction of legislation in the 1975 legislative session. CHP should convene parties interested in the passage of legislation and coordinate their activities toward this end.

Deliberations should take into consideration the American Medical Association's position which favors certification rather than licensure for physician's assistants.*

*See next page.

*The legal status of "physician's assistant" has been defined by a number of state legislatures. Two types of regulatory mechanisms for "physician's assistant" have been proposed or enacted. Both types vest authority in the State Board of Medical Examiners, or similar state agency, to regulate "physician's assistant" or classes of non-licensed allied health personnel trained to perform services in a dependent relationship to physicians. 1) One mechanism provides an exception to the State's Medical Practice Act that codifies the physician's legal right to delegate routine patient care functions to qualified non-physicians. The following states have enacted such exceptions: Alaska, Arizona, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Kansas, North Carolina, Oklahoma, Maryland, and Utah. 2) Through the other mechanism, legislation has been enacted to authorize the State Board of Medical Examiners to approve training programs for "physician's assistant" and approve a physician's use of usually no more than two graduates of such programs in the following states: Alabama, California, Florida, Iowa, New Hampshire, New York, Oklahoma, Oregon, Vermont, Washington and West Virginia.

Sub-Objective c: To provide back-up personnel to solo primary physicians in Montana by 1977.

Implementation: Provisions are needed for physicians without supportive personnel to "get away" for continuing education and vacations without worrying about coverage for the time they are out of the community.

The most appropriate group to launch a program of this nature is the Montana Medical Association in order to assure quality replacements. Since the AMA has initiated such a service for the National Health Service Corps, it is conceivable that it could expand to meet the needs of Montana's solo practitioners.

HEALTH MANPOWER

PROBLEM C: THERE ARE AREAS OF MONTANA WHICH CANNOT HOPE TO HAVE A RESIDENT PHYSICIAN DUE TO INSUFFICIENT POPULATION BASES AND/OR LACK OF AMENITIES FOR THE PHYSICIAN AND HIS FAMILY.

CURRENT SITUATION

Perhaps the most obvious examples of the population problem are Petroleum, Golden Valley, and Treasure Counties which have populations of 675, 931, and 1,069, respectively. In addition to whole counties, there are towns within counties which cannot support a physician and are extremely far from medical services. For example, Fergus County has a physician/population ratio of 1/1,576, but all the doctors are located in Lewistown. Towns like Denton, population 398, which is 39 miles away over mainly secondary roads, and Winifred, population 220, which is 38 miles away, cannot support a physician. The fact is that even where a physician is available "statistically" in some of Montana's larger but less populous counties, it is a physical impossibility for the physician to service the large areas. He cannot get to the people and they cannot get to him. In addition, while much of Montana surpasses most of the rest of the U.S. in recreational opportunities and sheer aesthetic appeal, there are portions of the state which do not have these features. Coupled with this, small numbers of people cannot support "man-made" amenities (e.g., cultural and educational opportunities) to the extent necessary to attract professional people.

ALTERNATIVE MODEL--SOS HEALTH CENTER

In designing health care alternatives for these areas, the experience of the SOS Health Center at Seeley Lake provides a model. In 1970, residents from Seeley Lake, Ovando, and Swan Lake, which are located in an isolated mountain area some sixty miles from the nearest physician and medical facilities, joined together to start a health center staffed by a well-qualified registered nurse.

The need for some provision for primary care was especially acute since travel out of the area, a valley between two mountain ranges, is extremely treacherous and sometimes absolutely impossible during the long winter months. In addition, logging, hunting and boating accidents punctuate the need for immediately available medical care.

Area residents renovated a motel suite to serve as a clinic and worked to get equipment donated or loaned. The project, now in its fourth year, has proven successful.*

In evaluating the SOS Health Center at Seeley Lake, it was found that having the nurse and the Center in the area benefited the area residents immensely. Among the benefits they identified are the following:

1. Contributes to sense of security and peace of mind among residents.
2. Provides a sanctioned health authority who can serve as an advocate for community residents.

*For more information on the Center, request the brochure Introducing a Community Nurse Practitioner - One Successful Approach to Community Health Care from CHP, State Department of Health and Environmental Sciences.

3. Saves time and money for residents.

4. Contributes to early detection and treatment.

Of particular significance with regard to the above problem is the benefit of providing a sanctioned health authority. It is worthwhile to quote the following excerpt from the evaluation materials in order to elucidate just how much it means to have an "official" health source in a community.

Prior to the inception of the SOS Health Center, there was an R.N. who resided in Seeley. It was common for people to drop by her house to ask advice on health problems, but opinions and simple dressings were all she could offer.* She could not refer people to doctors or offer any real medical advice because she was not "official". A similar situation prevailed in Swan where one resident interviewed said that once prior to the Center, she got a fishhook lodged in the palm of her hand. She went to a nurse in the area, but the nurse was unwilling to attempt to remove the hook since, as the resident put it, "She was afraid I might come back at her." So, the lady had to drive over 70 miles to Missoula to have it looked after.

The R.N. in Seeley now serves as the call nurse at the Center when the regular nurse is off. She indicated that the arrangement is much more satisfactory since, in addition to having equipment to work with at the Center, she has authority she did not have previously. Before she began to work at the Center, she had no more "in" with the doctors than the next private citizen. Now she is able to call the doctors in Missoula and be received readily because they know of the Center and its work.

Two or three times in the interviews, persons made statements such as, "I can't call and get an appointment right now, not like Wilma can. If she calls, they know there is a real problem." Or, again, "I don't know how to describe to the doctor what is wrong with somebody in my family. She knows what to say."

One example of the nurse's intervention in behalf of a person occurred when she went with the ambulance to the scene of a farm accident. When they arrived, a young man was being extricated from a piece of farm machinery. One of his legs was twisted almost all the way off. The skin was completely severed from the bone above his knee. Someone had applied a tourniquet, and a splint was hurriedly fashioned from a board and a piece of bailing wire. The nurse advised someone to call a hospital in Missoula and tell them the Seeley nurse had requested a doctor and an ambulance with pain killers and fluids. The ambulances met 15 miles out of Missoula. The speed with which all concerned were able to respond to the

*She said providing bandages got to be quite expensive since she couldn't charge for her services.

crisis no doubt contributed to saving the young man's leg since the tourniquet could not be released or he would have bled to death.

COMMUNITY HEALTH SOURCES

While there is no doubt in the minds of area residents about the benefits of having the nurse practitioner at Seeley Lake, it is an expensive program. Using ingenuity and hard work the local citizens have overcome some financial obstacles, but there are others yet to be dealt with before the program approaches self-sufficiency. Since all communities are not able financially to support a full-time nurse practitioner, it is suggested that some other alternative be developed to establish some source of health care within each community of whatever size. In one community there might be an L.P.N. or an R.N. who is presently serving as an unofficial "health caretaker" for the community much as the nurse who lived at Seeley was before the advent of the Center. Such a nurse with a little backing, some up-dating of education, and provision of basic equipment could become the recognized health authority in that community. In another community a pharmacist or an emergency medical technician might be designated.*

It is anticipated that R.N.'s or L.P.N.'s would comprise the first round of Community Health Sources because 1) there is a greater supply of unemployed, licensed nurses around Montana than any other manpower category, 2) their original training readily lends itself to expansion to include the work foreseen in this program, and 3) the fact that they are licensed avoids some legal complications which might arise if non-licensed personnel were used. However, since the primary aim of this program is to provide health care to areas without any, it must soon contend with the fact that legal and training adjustments may be necessary if licensed personnel are unavailable.

In addition to serving the immediate health needs of the citizens, the network would provide local contacts for outside agencies to determine the need for health programs. For example, if a nutrition program were available, the project director would know whom to contact in Bozo, Montana, to determine if that community wanted and needed this service.

*It has been suggested that a toll-free telephone line to the closest physician could serve as a community health source for communities too small to support anything more. Such an arrangement would considerably limit the benefits of the concept. The worth of having a physical presence, even if the person chosen to be the community health source has training only in first aid, cannot be overemphasized.

OBJECTIVE 1: To establish a network of identified community health sources in physicianless communities throughout Montana.

Sub-Objective a: To identify all Montana communities which cannot support a physician by fall, 1974.

Implementation: State CHP staff will do this with consultation from Areawide CHP's and local groups.

Sub-Objective b: To identify who and what types of people might be potential Community Health Sources in communities which cannot support a physician by 1975.

Implementation: CHP, Bureau of Nursing, Bureau of Health Education, and Bureau of Emergency Medical Services will do this.

Sub-Objective c: To prepare a preliminary model outlining the alternative types of Community Health Sources which might be chosen by communities of various sizes based on preliminary assessment by summer, 1975.

Implementation: CHP and Bureau of Nursing staff will prepare this with input from local areas.

Sub-Objective d: To develop a training program for potential Community Health Sources by 1976.

Implementation: The group which would work on this would depend upon the training and background of persons identified as potential Community Health Sources.

Sub-Objective e: To establish advisory groups in fifteen communities without a physician whose function would be to determine the most appropriate Community Health Source for that community.

Implementation: Areawide CHP's will determine whether this should be done by Areawide Boards or County Councils.

Sub-Objective f: To establish an identified Community Health Source in ten communities in need by 1977.

Implementation: This would necessitate providing the designated Community Health Sources with 1) training to upgrade their skills, 2) basic equipment and 3) a retainer based upon estimated number of hours of service.

Funds might be procured on a demonstration basis from federal or foundation sources. In addition, the communities would be expected to share in financing the project. After training and equipment were provided, it would be the responsibility of the communities to continue to provide the retainer in subsequent years.

HEALTH MANPOWER

PROBLEM D: RACIAL MINORITIES ARE UNDER-REPRESENTED IN MONTANA'S HEALTH PROFESSIONS.

MONTANA'S MINORITIES

Montana's largest minority population is Indian. Census estimates place the number of Indians in the State at 27,130 (1970 census) or 3.9% of Montana's population. Other estimates consider this extremely conservative with some suggestions that Indians may number 39,000 or 5.6%. Blacks comprise the next largest minority group in Montana, numbering 1995 (1970 census). Since the Indian population is significantly greater than that of any other minority group in Montana, the discussion here will be confined to the problem of Indian representation in the health professions.

INDIAN HEALTH PROFESSIONALS

Although there are no hard statistics available relative to actual numbers of Indians in the health professions in Montana, the evidence nationwide is such that if Montana had all the Indian representation in the country among the health professions, they would still be under-represented among Montana's physicians, dentists, veterinarians, etc.

In a speech in 1973 at the Governor's Cultural Awareness Conference on Montana Indians and Health,* Dr. George Blue Spruce, Director of Health Manpower Opportunity at HEW, gave the following breakdown:

"Of the 4½ million persons in the field of health services, very few are Indians. Of the 340,000 medical doctors in the country, only three are one-quarter or more Indian. There are 25,000 veterinarians of whom two are Indian. Of 125,000 pharmacists, six are Indians; of 18,000 optometrists, one is Indian; and of 120,000 dentists, one is Indian."

Dr. Blue Spruce presented the situation most vividly by taking the Conference participants on an imaginary tour to visit a hospital in an Indian community:

"The first person we'll meet is the hospital administrator who conducts the tours--he's non-Indian. We meet the chief health officer, a non-Indian; the head nurse, a non-Indian.

Yet we're told 100 persons work in the hospital and that 70 to 75 of them are of Indian descent. Who are these people? They are the aides, the orderlies, the custodial staff."

Recommendations from the Conference ranked as a highest priority the involvement of more Indian students in health careers through curriculum changes and education.

*Coordinated by CHP and held in Helena, May 30 to June 1, 1973. For conference report contact Comprehensive Health Planning.

OBJECTIVE 1: *To increase the number of racial minorities in health careers in Montana.*

Sub-Objective a: To foster a closer relationship between the INMED (Indians Into Medicine) Program at the University of North Dakota and schools in Montana by 1975.

Implementation: The INMED Program at the University of North Dakota has been established to promote the entrance of Indians into health professions. One project which the INMED Program sponsors is a mobile unit which carries information on health careers to Montana's reservation population. Another part of the program provides financial assistance to Indians in medical schools. CHP should investigate with the INMED Program: 1) ways in which Montana students could utilize the Program to the greatest advantage and 2) promote a closer relationship between Montana schools and the Program.

Sub-Objective b: To contact every school counselor in Montana by 1976 to offer assistance to them in interesting Indian students in health careers.

Implementation: The Billings Area Office of the Indian Health Service is involved in some activities in this regard. These should be expanded so that each school counselor in Montana understands the situation concerning numbers of Indians in the health professions and knows the resources available for Indian students.

SDH&ES' Bureau of Health Education and CHP, in conjunction with the Billings Area Office of the Indian Health Service, will arrange to send an initial letter to all school counselors advising them of the status of Indians and the health professions as well as offering to supply additional information upon request. Responses will dictate other steps to be taken. The clearinghouse to be created under Sub-Objective A.2.c. above, might provide the additional information requested.

Sub-Objective c: To disseminate the pamphlet on health careers prepared under Sub-Objective A.2.c. above, to all high school students in schools with significant Indian populations by 1976.*

Implementation: CHP can assure the accomplishment of this.

*Schools on reservations and in urban areas with concentrations of Indian populations--Great Falls, Billings, Helena, Havre.

HEALTH MANPOWER

*PROBLEM E: TOO LITTLE ATTENTION HAS BEEN GIVEN TO A COORDINATED, INTEGRATED SYSTEM OF HEALTH MANPOWER UTILIZATION.**

Most of the issues raised when considering health manpower problems concern health manpower categories--how to attract more physicians, how to educate more dentists, how to legalize the use of physician's assistants, etc. Relatively little thought has gone into how these provider categories could pool their talents to achieve the most effective delivery of health services.

No doubt one of the reasons for this in the past was that a solo practitioner served all the health needs of a community. Providing basic medical care, securing any available social services, visiting in the home and hospital, advising, educating and giving emotional support, he supplied total health care rather than clinical services alone. However, present-day comprehensive health care needs and the present structure of society make the delivery of health care by a single practitioner less than desirable.

For one thing, today's requirements call for different skill levels. Optimal health care demands skills which range from the most elementary, such as turning or bathing a patient, to the most complex, such as cardiac diagnosis.

Furthermore, if health care is to be responsive to patient needs and if the patient is to receive comprehensive diagnosis, treatment and support services, health care must be delivered in a variety of sites. Some services, because they require special equipment or personnel, can be provided only in ambulatory or hospital facilities. Others, because of manpower considerations, can be furnished only in centralized locations where patients can be seen during a scheduled period of time. Some--like assessment of the home environment or provision of home nursing services and "outreach"--can take place only in the home.

Lastly, since health care is a human service, and people come from a variety of backgrounds and environments, it is desirable to make available different kinds of providers to different kinds of consumer groups. Social and cultural differences and variations in age and sex account for varying requirements in the kind of providers needed.

Since the health care system as presently structured usually uses more than one person, more attention should be paid to creating among this group of providers an organized delivery mechanism. Different skill levels, delivery sites, and provider-consumer relationships may require more than one person, but the inclusion of several persons in no way assures that they will function as a team. The advantages to the establishment of a well-structured and well-functioning system of health care delivery would be many for both providers and consumers. Services could be more easily coordinated;

*Much of the material below is based upon Alberta N. Parker's The Team Approach to Primary Health Care, University of California, Berkeley, 1972, 53 pps.

duplication could be avoided; peer review could be set in motion; the patient could more easily identify those who have continuing responsibility for his care; team members would understand their roles and be able to identify readily to whom to refer; administrative control would be more efficient; providers would receive support from other team members, etc.

The characteristics of a team approach differ from independently operating providers in the following ways:

- Team members provide care to a common group of patients.
- Team members develop common goals for patient outcome and work to reach these goals. (The patient surely in this regard must be considered a member of the team.)
- Appropriate roles and functions are assigned to each team member, and each member recognizes, accepts and respects the roles of the others.
- The team possesses a mechanism that enables all to contribute and share information essential for effective patient care. This does not mean that each team member needs to communicate all the information he has about the patient to all other team members, but criteria must be developed by the team to determine what is to be shared in common and how this information is to be transmitted--through records, team conferences, daily supervision, informal communication between sub-units of the team, etc.
- The team possesses a mechanism to ensure that patient care plans are implemented, services are coordinated, the activities of the team are administered, and the performance of the team, as related to patient outcome, is evaluated. Supervision is an important part of this mechanism.

PARA- PROFES- SIONALS

In defining who should make up a team, particular attention should be given to the value of including paraprofessionals. The utilization of paraprofessionals in health programs is receiving increasing acceptance. To date, most of these workers are serving primarily in poverty areas, where low-income families with many social and health problems need many basic health care services. But there is a need in all care systems, including the private practice of medicine and dentistry, for someone who can go into the home, act as the eyes and ears of more isolated professionals and give the family all necessary help and support. This need is especially evident, even among the more affluent, when families include young children, persons with chronic illness, aged members, or persons with multiple health problems.

The paraprofessional is placed in a sensitive and important position. This worker may well be the patient's first and most frequent point of contact with the health system, and is often the first to observe changes in his condition. He is usually a community resident sharing a common cultural identity with the patient he serves. He must be able to:

- Understand the social, cultural and economic situation in which the family lives, and interpret it to other members of the team.

- Build a bridge of trust between the family and the health system.
- Recognize when other health or adjunctive services are needed by the family--for example, homemaker, visiting nurse, transportation and day care services or home visits by the physician.
- Act as an advocate for the family in obtaining these health or related social services.
- Assess environmental status and health status by taking histories and uncovering social and environmental contradictions to therapy, reasons for missed appointments, and hazards in the home.
- Educate about healthful living practices, nutrition, and safety; promoting measures to improve overall healthfulness of the environment; and teaching basic nursing skills.
- Carry out elementary diagnostic and therapeutic services--for example, take temperatures and blood pressures, weigh babies, look at rashes, demonstrate the use of hot compresses, arrange bed frames for the bedfast, and help the family follow and implement medical recommendations.
- Recognize and clarify problems facing the family and respond to them with ongoing counseling and support.

It is important to view services at this level as not being limited to social care alone, as is sometimes done. If total health care is the concern, medical care is automatically part of the package, and paraprofessionals cannot eliminate their concern and advice about it. Therefore, training must include knowledge about health and disease, human behavior and mental health, health care and related social services, health education, elementary nursing, and communication skills.

MONTANA CLEFT PALATE PROGRAM

One outstanding example of the use of a team approach in Montana is the Montana Cleft Palate Program, coordinated through the State Dept. of Health & Environmental Sciences. Three Cleft Palate Teams were created by the program in 1956. The Helena Team is generally responsible for the western one-third of the State. The Great Falls Team is generally responsible for the northern one-half of the State. The Billings Team is generally responsible for the southern half. There is some overlap of families living in one area wishing to go to another team because of personal preferences or because it is easier for them to go to Billings rather than Great Falls. This has been allowed in the past and is still acceptable. In 1967 the Missoula Team was organized, but had to be discontinued due to financial difficulties. It was reorganized in fall of 1973 by necessity.

The teams include plastic surgeons, orthodontists, pedodontists, pediatricians, and ear, nose and throat specialists as well as audiologists, nutritionists, public health nurses, social workers, and speech pathologists. The excellence of this team approach has received nationwide acclaim and should provide a model for the formation of other team efforts in Montana.

OBJECTIVE 1: *To develop educational programs which would a) demonstrate the value of the team concept in health care and b) encourage health providers to accept the team concept.*

Sub-Objective a: To conduct two workshops for health providers by 1976 in the eastern and western halves of the State to present the team concept and to discuss ways teams could be utilized and promoted in Montana.

Implementation: Due to varying geographical conditions and manpower supply, it is felt that the development of the team approach would proceed differently in the eastern and western portions of Montana; therefore, two workshops should be conducted.

Speakers who have experience with the formation and utilization of teams such as the Coordinator of the Cleft Palate Program in the State Dept. of Health & Environmental Sciences should be procured for the workshops. Attempts should be made to attract as many health care providers as possible to participate in the seminars. The appropriate groups which might coordinate the workshops are Montana Medical Education and Research Foundation, Montana Health Association and Comprehensive Health Planning.

It is anticipated that federal funding might be sought considering the interest of the federal government in preparing for the advent of National Health Insurance and Health Maintenance Organization development.

Objective 2: To support the use of paraprofessionals in health programs.

Sub-Objective a: To prepare a paper on the roles and responsibilities appropriate for paraprofessionals in health programs and to disseminate it to programs across the State by 1975.

Implementation: CHP staff can accomplish this sub-objective.

Sub-Objective b: To establish positions for paraprofessionals in two federally-funded health programs which have not utilized paraprofessionals previously by 1976.

Implementation: When CHP learns of a new health program, it will arrange for a meeting with the directors and staff of the new program and another program which has found the employment of paraprofessionals to be beneficial. By establishing a dialogue between the two groups on this subject, it is anticipated that an understanding of the advantages of utilizing paraprofessionals will be evident to the point that the new programs will employ them.

HEALTH FACILITIES*

PROBLEM A: THERE IS ONLY A VERY LIMITED COORDINATED SYSTEM OF HEALTH FACILITIES OFFERING ALL LEVELS OF CARE.

The rising cost of medical care, the continuing shortage of health manpower, and the fragmentation of health services has generated interest in both the organization of the health system and in inter-institutional relationships. With clearly limited health resources, use of available facilities, manpower and finances must be effectively planned to assure that comprehensive health services are available to local communities.

The increasingly stringent state and federal regulations make it difficult for health facilities to continue to operate. This is especially true of small facilities which complain that they are being "put out of business." The trend is accelerating in response to increasing demands for cost containment and efficiency coupled with tougher regulations concerning required equipment, manpower, and reports. The passage of national health insurance will add additional pressure to marginally viable health institutions.

These institutions must act now to avoid being put out of business. Small health facilities, hospitals, and nursing homes will find it difficult to retain financial viability in the future unless immediate steps are taken to strengthen their cost containment potential and improve their quality. Unless these institutions become more flexible in viewing organizational and operational options, the existing trend of threat of facility closures will only increase with communities finding themselves without any health care facility as the price for attempting to retain the status quo. The survival of all health facilities lies with the degree of flexibility which can be maintained in meeting the challenges of the future.

Two organizational and operational options should be closely examined--shared services and the satellite system concept.

Combinations of some services can possibly lead to increased efficiency and improved patient care. Examples of such services are:

central purchasing	medical records
administration	in-service education
automation and computers	medical:
dietary	radiology
engineering	pathology
laundry	pharmacy
library	rehabilitation

Some shared services, such as central purchasing, are appropriate to institute on a statewide basis as is being done through the Montana Hospital Association. The Hospital and Nursing Home Associations' districts form natural areas for the facilities within them to plan other forms of shared services and agreements regarding levels of care and services offered.

As an example of types of savings possible through shared services, it has been estimated that there would have been a savings of \$280,000 a year if

*A health care facility means a hospital, long-term care facility or hospital-related facility such as an out-patient surgi-center, public health center, rehabilitation facility, infirmary, mental institution, alcohol and drug dependence center or halfway house.

Missoula had one "health park" complex sharing services and containing only the number of beds that are needed rather than the present situation of having three separately functioning hospitals.*

SATELLITE SYSTEM

The satellite system refers to an arrangement with a large urban hospital offering a broad range of medical services with several outlying hospitals providing more routine care. Each member hospital or nursing home has access to all the professional services available to the system as a whole.**

Steps must be taken to assure that communities will continue to have access to basic health care and various levels of health care. This can be done by having facilities arrange for out-patient care to otherwise underserved areas, and by providing innovative services such as home health care and medical-social services, which may be provided as a shared service.

Home health care is discussed in detail in the Health Services section of this Plan.

Medical-social services contribute to the hospital's basic goal of good patient care, and should be woven into the hospital's total program. "They often result in a better understanding of the patients' needs, removal of obstacles to meeting the needs, and development of specific resources and activities."***

*David B. Starkweather, Report to the Areawide Health Facilities Planning Committee, Western Montana Medical Society, December, 1968, p.31.

**For further information, see The Satellite System: A Concept in Shared Services available from the Division of Comprehensive Health Planning, Department of Health and Environmental Sciences.

***American Hospital Association, The Essentials of Social Work Programs in Hospitals, Chicago, Illinois: 1971, p. 10.

OBJECTIVE 1: Health facilities shall be encouraged to consider sharing services and forming satellite systems.

Sub-Objective a: A voluntary system of shared management services should be functioning in southeastern Montana by January 1, 1975.

Implementation: CHP staff will continue to serve as a liaison between the Seventh District of the Montana Hospital Association and the Montana Nursing Home Association and possible funding sources whenever requested by the District.

Sub-Objective b: At least two additional voluntary regional shared management services shall be functioning in Montana by December, 1975.

Implementation: CHP staff and Council members shall meet with district hospital and nursing home associations to encourage them to participate in shared management services programs. CHP staff shall refer interested parties to groups able to provide technical and financial assistance.

Sub-Objective c: Health facilities shall be encouraged to assist in establishing primary care services in areas without such services.

Implementation: Facilities should assist in developing the community health source program discussed in the Health Manpower Section, pages 98-101.

OBJECTIVE 2: Health facilities shall be encouraged to develop and provide medical social services.

Sub-Objective a: An education program for hospital personnel on the necessity for and feasibility of health facilities offering social service referrals as a shared service where appropriate shall be held in each hospital district by July, 1975.

Implementation: The Montana Chapter of the National Association of Social Workers will conduct educational programs on the necessity for and feasibility of health facilities having social service capabilities.

Sub-Objective b: Medical social service resource people will be identified in each CHP area of the state by July, 1975, and updated annually.

Implementation: The Montana Chapter of the National Association of Social Workers will identify medical social service resource people.

OBJECTIVE 3: Health facilities shall be encouraged to increase the utilization of and extend the availability of home health services. (See Home Health component of this Plan for sub-objectives and implementation.)

HEALTH FACILITIES

PROBLEM B: THERE ARE UNECONOMIC OVERLAPS IN THE SERVICES OFFERED BY HEALTH FACILITIES.

One result of not having a coordinated system of health facilities throughout the State is that uneconomic overlaps in the services offered by health facilities occur. An uneconomic overlap in service means that two or more facilities provide the same type of service to a given population with the result that the service is underutilized. An underutilized service is expensive for a community to support. This is true not only for the highly specialized services, but also for the more routine services and for the quantity of health facility beds in an area. For example, services provided in hospitals with low occupancy rates are expensive for a community. It is estimated that fixed costs for maintaining empty beds is equal to that for occupied beds.

HOSPITAL BEDS

The State of Montana ranks fifth in the Nation in terms of the number of general hospital beds for the population with 5.58 beds per 1,000 residents. Many of the beds are not needed. The 1973 State Plan for Hospital and Medical Facilities Construction shows a total of 3,715 existing general hospital beds. Only 3,071 are needed. 1,510 of the existing beds are non-conforming; i.e., the facility, or parts of it, do not meet all State safety and service standards. Only those non-conforming beds which are shown to be needed should be modernized.

There are five areas with a surplus of non-conforming hospital beds. Even if the non-conforming beds were closed, there would still not be a shortage of hospital beds in the following areas:

Butte Intermediate Service Area

(Silver Bow, Granite, Deer Lodge and Powell Counties)

Even if the eight non-conforming beds in St. James Community Hospital, Butte, and the ten-bed non-conforming hospital in Philipsburg were to close, there would still be a surplus of acute hospital beds in the Butte Intermediate Service Area.

Great Falls Intermediate Service Area

(Cascade and Chouteau Counties)

There is a surplus of 88 hospital beds in this service area. Columbus Hospital, in Great Falls, has 90 non-conforming beds.

Lake County

The three hospitals in Lake County are located within a thirty-mile stretch of road. Seventeen beds in the non-conforming hospitals at Polson and Ronan should not be replaced if the bed surplus is to be eliminated.

Missoula Intermediate Service Area

(Missoula County)

The three hospitals in Missoula have a total of 424 beds, 165 of which are in excess of the current need. The 67 beds at Missoula General Hospital are non-conforming.

Sanders County

There are 48 hospital beds in Sanders County. Thirty-six beds are needed. The 16-bed hospital in Hot Springs is non-conforming.

In general, there is a shortage of long-term care beds in the State. Additional long-term care beds are needed in most of the service areas in the State. (See following page for list of service areas.)

HILL-BURTON PLAN

The use of "Hill-Burton Plans" for making decisions regarding construction of health facilities has been criticized because of their emphasis on bed need. This criticism is valid for large metropolitan areas where dozens of hospitals and thousands of hospital beds may be within a few miles of the city residents. In such a situation, a description of the number of beds needed by major services is an incomplete criteria on which to base decisions regarding the development of patient care services and a coordinated health facility system.

In rural states such as Montana where health facilities serve fairly discrete populations, state plans developed under the Hill-Burton program have proved to be accurate guides for determining the number and size of needed facilities. When it is known what facility patients go to, it is relatively easy to determine where and in what amount hospital and nursing home services should be provided. In Montana, the State Plan for Hospital and Medical Facilities Construction has proved to be a reliable guide for this purpose.

Certificate of need legislation is necessary to insure the orderly and planned development of health facilities and services. It would require facilities to obtain approval by the Department of Health and Environmental Sciences before certain types of capital expenditures could be made. Such a bill has been defeated twice in the last five years in the Montana State Legislature.

In order to stop uneconomic overlaps in services offered by health facilities, guidelines for determining the need for various services should be developed and used.

NUMBER OF ADDITIONAL LONG-TERM CARE BEDS
NEEDED BY SERVICE AREA

1 - 19 Beds

R-3 Sanders County
R-10 Pondera County
R-30 Fallon & Carter
Counties
I-7 Custer & Prairie
Counties Intermediate

20 - 49 Beds

*R-5 Mineral County
R-8 Toole County
*R-11 Teton County
R-15 Wheatland & Golden
Valley Counties
R-16 Musselshell County
*R-17 Park County
R-20 Big Horn County
*R-21 Valley County
R-22 Daniels County
R-23 Sheridan County
R-25 Garfield & McCone
Counties
R-28 Rosebud & Treasure
Counties
R-29 Powder River County

50 - 99 Beds

R-1 Lincoln County
*R-2 Flathead County
R-4 Lake County
R-6 Ravalli County
*I-1 Missoula Intermediate
R-7 Glacier County
*R-9 Phillips County
R-12 Beaverhead & Madison
Counties
*R-14 Fergus, Judith Basin &
Petroleum Counties
R-19 Carbon County
*R-24 Roosevelt County
R-26 Richland County

100 - 199 Beds

*I-2 Great Falls Intermediate
*I-3 Havre Intermediate
*R-13 Gallatin County
*F-4 Helena Intermediate

200 - 299 Beds

*I-5 Butte Intermediate

Over 300 Beds

*F-6 Yellowstone Intermediate

*Plans have already been made to
add a substantial number of these
beds.

OBJECTIVE 1: *The construction or modernization of unnecessary beds by health facilities shall be discouraged.*

Sub-Objective a: To prevent overbedding through a review and comment mechanism, the State Plan for Hospital and Medical Facilities shall be used as the guideline for determining bed need.

Implementation: CHP agencies and the designated planning agency (Department of Health and Environmental Sciences) shall follow the established procedures for implementing Section 1122 of the Social Security Act.

Sub-Objective b: To pass certificate of need legislation.

Implementation: The Health Facilities Committee of the Advisory Council will work to have certificate of need legislation reintroduced and passed.

OBJECTIVE 2: Unnecessary duplication of services shall be discouraged.

Sub-Objective a: To prevent unnecessary duplication of services through the review and comment mechanism, the guidelines established in the Montana State Plan for Health shall be used to determine the need for the following services:

*Renal dialysis services
Radiation therapy
Rehabilitation medicine
Burn treatment centers
Cardiac catheterization services
Infant intensive care services
Open heart surgery centers
Intensive care units and coronary care
units in small hospitals*

(See Guidelines for Determining the Need for Selected In-Patient Services in the Appendix)

Implementation: CHP agencies and the designated planning agency shall follow the established procedures for implementing Section 1122 of the Social Security Act.

Sub-Objective b: Guidelines on which to base review and comment recommendations shall be established for additional services and shall become part of the Montana State Plan for Health within four months of the time the need for such guidelines is identified by the Council.

Implementation: CHP staff shall submit guidelines to the appropriate committees and to the Advisory Council for their approval.

OBJECTIVE 3: To improve the review and comment process by increasing opportunities for communication between the Health Facilities Committee (HFC) of the Montana Advisory Council for CHP and the areawide CHP agencies.

Sub-Objective a: The areawide agencies will be encouraged to invite members of the Health Facilities Committee to their review and comment or Facilities Committee meetings.

Implementation: The staff of the Health Facilities Committee will provide each areawide agency with a list of the members of the Health Facilities Committee and ask the agency to invite those persons to appropriate meetings.

Sub-Objective b: The Health Facilities Committee will be informed if the assessments of the areawide CHP agencies show an unmet need in the area of health facilities review.

Implementation: The staff of the Health Facilities Committee will ask each agency to make the results of their assessments dealing with project review available to the Health Facilities Committee.

HEALTH FACILITIES

PROBLEM C: NATIONAL LEGISLATION AND REGULATION OF HEALTH FACILITIES AND OTHER HEALTH CONCERNS DO NOT REFLECT THE NEEDS OF RURAL POPULATIONS.

Most federal legislation and accompanying regulations are understandably geared to the urban areas in which 70% of the United States population lives. In the health field, with the greater degree of federal control, the result of the urban bias is particularly unfortunate. The notable feature of recent legislation to address the health problems in rural areas has been its absence.

There are many examples of the failure of national legislation to meet the needs of rural areas. The P.L. 92-603 Medicaid and Medicare regulations designed to increase the quality of care in nursing homes will mean that many areas in Montana may lose their only intermediate care facility.

Efforts to make health legislation and regulation more responsive to rural areas have been sporadic and generally aimed at specific provisions within the documents. What is needed is a broad-based effort to make legislative and administrative personnel at the national level aware of the peculiar problems of health delivery in rural areas and allow the states to manage their own health needs and resources following federal guidelines.

OBJECTIVE 1: To establish a mechanism for attempting to obtain changes in regulations which are insensitive to the problems of health delivery in rural areas.

Sub-Objective a: To form a sub-committee of the State Advisory Council for Comprehensive Health Planning by 1975 whose major responsibility will include the study of national regulations and legislations to determine its impact upon Montana.

Implementation: The administrator of the CHP Division and the Executive Committee will formulate the committee for review of national legislation and regulation.

Sub-Objective b: To contact appropriate people at the national level on a continuing basis to make them aware of the peculiar problems of health delivery in rural areas.

Implementation: The newly formed sub-committee (Sub-Objective a) will make recommendations at each Council meeting on what kind of information should be sent to which people.

Sub-Objective c: To support efforts to obtain changes in Medicare and Medicaid regulations that reflect community needs.

Implementation: The chairman of the Council will send a letter to the HEW offices in Denver and Washington, D.C., indicating support for these changes. The newly formed sub-committee (Sub-Objective a) will design other strategies of support.

Sub-Objective d: To identify other major demands improperly placed on rural health systems by national legislation or regulations by July 1, 1975, and to attempt to change the demands.

Implementation: After identification of the problems, alternative means for implementing the sub-objective will be submitted to the Council. The newly formed sub-committee (Sub-Objective a) will have this responsibility.

ENVIRONMENTAL HEALTH

PROBLEM: RECENT CONCERN, BOTH NATIONALLY AND STATEWIDE, ABOUT THE ENVIRONMENT HAS RESULTED IN INCREASING EFFORTS IN MONEY AND TIME IN THIS AREA. STILL THERE ARE ENVIRONMENTALLY-RELATED HEALTH PROBLEMS WHICH NEED CONSIDERATION, AND IT IS TO THESE THAT THE ENVIRONMENTAL SECTION OF THE STATE PLAN FOR HEALTH IS DIRECTED.

INTRODUCTION

A major responsibility of Comprehensive Health Planning is the protection and promotion of health, and a principal component of this effort involves the field of environmental health. Where it can be shown that health status can be improved by environmental change, planning for such change becomes an appropriate CHP concern.

The need for a healthful environment is shared by all people. Provision of environmental health services represents a governmental effort to regulate and control the essentials of existence--man's need for and use of air, water, food and shelter. The American Public Health Association has defined environmental health as, "The inter-relationship between the environment and the health and well-being of man. In this sense the environment may be evaluated in terms of the physiological and psychological responses of man to the physical, chemical, and biological attributes of his environment."

Relating all aspects of environmental health to the health of man requires that health be defined rather broadly. The World Health Organization's definition allows development of this relationship and is as follows: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease." Further, it is essential to acknowledge the interrelatedness of environmental factors, and to consider environmental effects upon health in a comprehensive manner. As Dr. John Hanlon has pointed out, "It must be recognized that an individually acceptable level of air pollution, added to a tolerable amount of water pollution, combined with a bearable amount of noise and congestion can produce a totally unacceptable health environment."

In environmental health planning, this state is in the fortunate position where programs can begin to draw away from activities that involve repair, correction or enforcement, and can begin planning for activities of a positive or promotive nature. Planning in a positive framework--on good health rather than illness, on maintenance of cleanliness and sanitation rather than on cleaning up an environment allowed to become insanitary--can begin. The purpose of our planning efforts should be the assurance that every Montanan can thrive in a healthy, comfortable, convenient, and attractive environment through efforts to control pollution at its source, reduce hazards, convert waste to use, and improve the aesthetic value of man's surroundings.

This report identifies four basic program elements of environmental health: water quality, shelter quality, food quality, and air quality.* In addition, it discusses the provision of services by state and local government.

*The subject of environment requires that its many distinct elements be addressed separately if a comprehensive understanding and approach is to be realized. Therefore, this section of the Plan considers the part each environmental element plays. It is dissimilar to the other sections of the Plan (Manpower, Facilities, Health Services) in this regard.

Water quality includes consideration of the safety and quantity aspects from the stages of planning, development, transportation, storage, treatment, distribution, and use for domestic purposes. Control of disease and ill effects communicable through domestic water are closely and inseparably related to efforts to insure the proper disposal of wastewater and sewage. Preventing water having a potential for human usage from becoming polluted or contaminated is the preferred approach and is the principal justification for efforts in water pollution control. Yet, public health concern for water must go beyond these elements and extend to the uses of water for irrigation, recreation, and food processing; the potential for vector breeding; and the need for judicious use of this precious resource through conservation and reclamation of quality following its use.

Shelter quality is regarded here as not only encompassing the areas of housing, institutions, and public establishments, but also the general artificial and natural environment for work, play, and general living. It includes the whole field of protection of man from the rigors of the elements, as well as from hazards related to vectors, pesticides, noise, congestion, accidental injury, occupational health and safety, radiation, solid waste, and unhealthful living conditions related to improper land use and development. Shelter quality programs attempt to insure in the provision of housing and community environments some basic physiological and psychological needs, as well as protection against contagion and accidental injury.

Food quality encompasses the entire chain of food supply, from the production level through processing, storage, preparation, display and marketing, down to the actual serving and consumption of meals. Nutrition, strongly related to the promotion of good health and the prevention of disease, is also considered here. If sanitation and proper food handling methods are not practiced at each stage of handling, a product unfit for human consumption due to physical, biological, or chemical contamination can result.

Air quality is concerned with the physical, chemical, and biological quality of air as a natural resource. Activities such as air quality monitoring, source surveillance and control, and education are planned in order to maintain a high quality air, and to prevent chronic health problems such as bronchial asthma, emphysema, chronic bronchitis, and lung cancer that are associated with polluted air.

There are three basic levels of concern for which environmental health control efforts can be planned. They are:

- 1) Insuring the elements of a healthy environment,
- 2) maintaining an environment suited to man's efficient performance,
- 3) preserving the comfort and the enjoyment of living.

Although not undertaken here due to problems of time and economics, ideally, planning in the different program elements should develop various alternatives based on these levels of control, and decision makers could then decide on the most feasible, desirable, or acceptable level. As mentioned previously, Montana is, in most instances, in the very fortunate

position of being able to plan, develop and implement programs with a positive emphasis toward promotion of health. The second and third levels of concern are legitimate and desirable objectives in planning for environmental health.

It is the goal of this planning effort to develop programs that ensure Montana residents a physical environment which is conducive to their health, safety, comfort and well being. A more detailed description of the manner in which each environmental element and sub-element relates to health is contained in Appendix G.

ENVIRONMENTAL HEALTH ELEMENT:
PROVISION OF SERVICES, STATE AND LOCAL GOVERNMENT

The delivery system for environmental health services is of paramount importance in the control of environmental health problems to be discussed in the main body of this report.

LOCAL
RESPONSI-
BILITY

Governmental control at the level closest to the people is an accepted civics principle. If environmental health services can be effectively and efficiently provided at the local level, then this is where it should be done. In many cases, however, local government units have failed to respond to environmental health needs. The lack of response can be attributed to such things as apathy, lack of authority to take action, economically unrealistic costs in provision of specialized equipment and trained manpower, and simple unwillingness to increase taxes and thereby services.

STATE
RESPONSI-
BILITY

State government, in turn, has also been slow in responding to environmental problems, and the federal government has had to provide the leadership in legislation, program development, and action. The environmental awareness of the late 1960's provided the impetus for passage of this environmental legislation. State government, hesitant to allow federal intervention, followed with the development of expanded environmental health programs, with much incentive provided by available federal dollars for the initiation of these efforts.

At the local level, the public health sanitarian is the sole provider of environmental health services. Traditional activities have been in areas such as private water supply and sewage disposal control, food sanitation regulation, solid waste storage and disposal regulation, vector control, and general nuisance investigation. More recently, local sanitarians have become active in areas such as housing and neighborhood surveys of environmental conditions, air and water pollution control, and public establishment surveillance. Local political pressure may be exerted to limit the areas in which the sanitarian works. Local sanitarians also find it difficult to attempt enforcement action against their own employer--local government. Examples include water quality laws and municipal sewage discharges, and solid waste disposal regulations and county-owned open dumps. Thus, state control and authority is necessary in many environmental health programs.

State government's response to environmental health problems has been one of crisis reaction. Programs have come about one at a time, have usually been restricted to a single problem, and have operated more or less independently. The response has been void of comprehensive planning, has never been adequately funded, and has resulted in a structure incapable of effective action on a comprehensive environmental health program level. It is essential that all environmental problems having a significant health implication be dealt with through comprehensive programs, staffed with professional and competent personnel and backed by a solid, health protection-oriented administrative structure. Existing environmental health services with respect to the state-local government relationship are not adequately defined. Surveillance and authority have been delegated to local agencies in some environmental health programs, but not in others. No formal guidelines have been developed detailing this complex relationship. A great deal of planning is needed to identify the roles of state and of local personnel in the provision of comprehensive environmental health controls.

Enforcement has been one aspect of environmental control that has been severely lacking. The state is dependent upon the local County Attorney to initiate and proceed with enforcement action. County and City Attorneys' offices have been so understaffed and preoccupied with other matters that enforcement of environmental health laws and regulations has been extremely limited.

Staff level services such as planning, management, and health education have not become effectively involved in environmental health programs.

MANAGEMENT STUDY

A thorough management study on the provision of environmental services is needed at the state level. Such a study should address itself to at least the following areas:

- 1) Adequacy of environmental health laws and regulations.
- 2) Optimization of the organizational structure for delivery of comprehensive staff and line level environmental health services (including decentralization).
- 3) Personnel management including staffing patterns and needs, classifications, and administrative needs.
- 4) Development of a state-local partnership mechanism with identified responsibilities and authorities (including standards of performance), and including the needs of each for implementation (legislation, financing, personnel, etc.).
- 5) Budgetary needs for provision of comprehensive services, and analysis of alternative sources of needed revenue.
- 6) Review and study of the methods for improving enforcement of environmental health laws and regulations (district state attorneys, department procedural needs, etc.).

There are several possible alternatives for provision of such a study. The study could be contracted to private enterprise, conducted by the CHP or Planning and Management Services Bureaus of SDH&ES under special legislative funding, or done through CHP under a federal or foundation grant arrangement, if available.

In lieu of this study, work should proceed within the department on improvements in state-local relations, funding, information and education activities, enforcement, planning and management services, and organizational structure. Creation of a Bureau of Local Health Services within the SDH&ES would be useful in coordinating state-local relations and improving local health services.

Local sanitarian services are now being provided to all but two of Montana's counties. However, there are several areas where one sanitarian provides coverage to three, four and even five county jurisdictions.

SANITARIAN INTERNSHIP

Sanitarians seldom have the benefit of formal educational training specifically in environmental health, although such curricula are being developed

Until such time as a degree in environmental health can be a requirement for registration, a sanitarian internship program should be provided to give practical experience to the newly-hired sanitarian before he goes into the field on his own.

Program responsibilities have increased a great deal in the past five years with the passage of new legislation in environmental health areas such as air and water pollution, solid waste disposal, housing and subdivision regulation, etc. Corresponding increases in budget, staff, etc., have not occurred.

The SDH&ES has provided a monetary contribution to the budgets of eligible local units with full-time health departments. The amount, however, has remained based on the same formula for many years. A very significant need exists to expand this budgetary formula and contribution in order to offset the expanded demands and requirements delegated to local health units by recent legislation. Also, state monetary grants to local health agencies providing maximum services would provide considerable incentive for improvement of services. This would simply be an extension to local government of the principle that the federal government has recently utilized to stimulate state action.

The proposed (Sub-Objective 1.c) Local Health Services Bureau within the SDH&ES could effectively administer a state effort to improve local services. The Bureau could become involved in the development of a basic services level and standards of performance; provision of grant monies; provision of both in-service and advanced training; study of the provision of a sanitarian internship program; and provision of assistance in program planning, including priority determination. The Bureau could also work with local government officials for improvement of services through the expansion of personnel and budget.

Expansion of the powers and duties of local boards of health to enable passage of local regulations and authorize local involvement in programs aimed at environmental health control and chronic disease control would be desirable. Present legislation restricts local board action mainly to measures to control communicable disease. Health, as defined today, must be considered in a much broader scope, including the social and mental well-being of man and the quality of his life.

OBJECTIVE 1: To improve state government's provision of environmental health services.

Sub-Objective a: To commission the conduct of an in-depth management study of provision of environmental health services by July 1, 1975, and to have such a study completed by December 31, 1975.

Alternative: 1) To study the feasibility of establishing a Bureau of Local Health Services within the SDH&ES by July 1, 1975.

2) To provide adequate funding to enable enlargement of the SDH&ES Planning and Management Bureau in order to expand administrative efforts in these aspects to environmental health programs by July 1, 1975.

3) To strengthen the SDH&ES Legal Services Unit by providing funding to allow addition of two additional staff lawyers by July 1, 1975, and to complete a study of various methods for improving enforcement of environmental health laws and regulations by July 1, 1976.

4) To conduct a study of the desirability and potential of decentralizing environmental health services into SDH&ES District Offices by December 31, 1975.

Implementation: Implementation of this sub-objective or its alternative is to be by SDH&ES Administration and CHP Division personnel who should develop proposals for legislative consideration where indicated, and should delegate responsibility for the studies called for. Support for these efforts should be provided through health, civic, and environmental interest groups and associations and by individual citizens.

Sub-Objective b: To increase information and education efforts of the various environmental health programs by assigning information, public relations, and education responsibilities to a health educator for each Bureau within the SDH&ES Environmental Sciences Division. Adequate funding should be provided to allow placement of this additional personnel, and it is suggested that health educators be directly responsible to the Bureau Chief, with an indirect organizational link to the Health Education Bureau. This should be accomplished by July 1, 1976.

Implementation: Implementation is to be by SDH&ES supervisory personnel and by Environmental Sciences Bureau Chiefs who should plan and justify these needed services in legislative proposal, and by health and civic interest groups, CHP, and individual citizens who should provide lobby support for the proposal.

Sub-Objective c: To study the feasibility of a Local Services Bureau within the SDH&ES by July 1, 1975, and to have such a Bureau established by July 1, 1976, if deemed desirable.

Implementation: Implementation is to be by SDH&ES Administration and CHP personnel who should conduct the study, and who should plan and justify the proposal if deemed desirable.

OBJECTIVE 2: *To improve local government's provision of environmental health services.*

Sub-Objective a: To obtain support and endorsements of the environmental management systems study and the Local Health Services Bureau recommendations put forth in Sub-Objective 1.a and 1.c by December 31, 1974.

Implementation: Implementation is to be by local public health sanitarians individually and through their representative organization, the Montana Environmental Health Association as well as by other health and civic interest groups and by individual citizens.

Sub-Objective b: To have the formula for the provision of SDH&ES funds to local budgets increased in accordance with recent increases in demands and legislative requirements by July 1, 1975.

Implementation: Implementation is to be through a cooperative effort of SDH&ES and local health agency leadership personnel who should develop and justify a proposal for legislative consideration. CHP, health interest, local government, and civic groups as well as individual citizens should provide the necessary support of the proposal.

Sub-Objective c: To study the possibility of providing state grant monies to local health units that plan and agree to participate in a comprehensive state-local partnership effort in provision of environmental health services by December 31, 1976.

Implementation: Implementation is to be by CHP personnel with assistance from top administrative personnel within the Environmental Sciences Division.

Sub-Objective d: To study and develop a proposal for legislative consideration of the expansion of the powers and duties of local boards of health by December 31, 1976.

Implementation: Implementation is to be by CHP personnel with assistance from administrative and Legal Unit personnel of the Department.

Sub-Objective e: To increase the number of sanitarians practicing in the state such that a sanitarian to population ratio of 1 to 12,000 is attained by July 1, 1977.

Implementation: Implementation is to be by SDH&ES and local health agency personnel and by health interest organizations, civic groups, and citizens who should work to show government officials the need for additional manpower for effective, comprehensive environmental health services.

Sub-Objective f: To study and develop a proposal for an internship training period for public health sanitarians by December 31, 1975 and to have such a proposal implemented beginning July 1, 1976.

Implementation: Implementation is to be by SDH&ES Environmental Services Bureau personnel or, if created as proposed in Sub-Objective 1.b, Local Services Bureau personnel.

REGULATION

Regulatory authority of municipal water supplies belongs to the SDHES. Activities involved in the exercise of this authority include review and approval of plans for new facilities and extensions and modifications of existing ones, laboratory testing of samples for bacteriological and chemical analysis, operation and facility review through inspections and field visits, and consultative assistance to areas or communities expressing interest in the development of municipal supplies.

STAFF

Severe staff limitations at present limit the activities and scope of this aspect of the State Water Quality Bureau's responsibilities. Present activities, especially in the area of plant inspection and review, are inadequate. Improvements are needed in several municipal water supplies within the state with regard to physical, chemical, and biological quality. Efforts in the Water Treatment Plant Operator certification and training program need to be continued to insure safe, top-level operation of the state's municipal supplies.

Increased surveillance for chemical contaminants, mainly in those municipal supplies using surface waters, should be undertaken because in most plants these contaminants would pass through the treatment system essentially unchanged and undiminished. As our state grows, there will undoubtedly be a corresponding growth in the volume and complexity of chemical wastes entering rivers, lakes, and underground aquifers. To assist in that surveillance, the certification of private laboratories for chemical analysis could reduce demand on the state laboratory. A more effective enforcement mechanism is needed to insure compliance with applicable standards, rules and regulations.

The addition of fluorides, where needed, to public water supplies could have a proven beneficial effect on health through a reduction in dental caries.

Nevertheless, some occurrences such as pollution via natural means will certainly pose problems despite existing and proposed control systems.

WATER
QUALITY
PROBLEMS

From the basin water quality management plans developed to date, the SDHES Water Quality Bureau has identified several stream segments with water quality problems. Water quality limited segments (those for which application of greater secondary treatment for municipalities and greater than best practicable treatment for industries would probably be needed to meet water quality standards) are found in 17 locations, and are due principally to non-point sources such as acid mine discharges, sediment from erosion, and natural pollutant discharge. Control and abatement of these problems will be extremely difficult.

Effluent limited segments (those for which application of secondary treatment for municipalities and best practicable treatment for industries would probably be adequate to meet water quality standards) are found in 12 locations, are due principally to municipal and industrial point sources, and are generally controllable. Industrial waste discharges for the most part will need minor improvements to meet best practicable treatment, and little problem is seen in attainment of these requirements. Difficulty is foreseen, however, in obtaining secondary treatment from municipalities by the July 1, 1977, deadline established in the Federal Water Pollution Control Act Amendments of 1972.

FUNDING

A major problem is obtaining adequate federal funding for these projects. Montana's grant monies have not been sufficient to provide for all project needs and proposals, and a priority system has had to be initiated to allocate

the funds. In addition, there are many municipalities needing immediate sewer improvements to correct existing problems within their systems. Some of the state's smaller communities are also in need of sewers and treatment systems to replace inadequate individual sewage disposal facilities.

WATER TREATMENT

The state has completed and signed an agreement to take over major review of facility plans, plans and specifications, and operation and maintenance manuals for construction grant projects. EPA's signing of this agreement would eliminate a duplication of efforts and shorten the time required for grant processing.

The provision of periodic inspections and of training for Water Treatment Plant Operators is necessary to see that once constructed, these municipal treatment facilities are operated in a manner that will meet water quality standards.

The principal control and enforcement tool for point sources is the discharge permit system. The federal Water Pollution Control Act Amendments of 1972 established a National Pollutant Discharge Elimination System (NPDES) whereby EPA could issue permits for discharges. Since Montana already had a discharge permit program, efforts were initiated to allow the state to administer the NPDES, in order to avoid unnecessary duplication of effort. After program revision to meet EPA rules and regulations, the state is now awaiting the EPA Administrator's review and approval of the requested takeover. Initially, permit issuance will probably have to be handled on a priority basis. Permit compliance monitoring is an important aspect of the discharge permit system, as well as an integral part of a larger overall surveillance and problem identification effort.

RIVER BASINS

Water quality management plans on a river basin scale outlining the needs and priorities for each, are required by federal law as a pre-requisite to obtaining EPA construction grant monies. Using a team approach involving at least a chemist, biologist, sanitary engineer, hydrogeologist, and soil chemist, three of the 16 state river basins' plans have been developed.

The completed plan is used as the basis for establishing priorities for more in-depth surveillance, construction grants, and permit issuance. The plan also reviews existing water quality classifications and standards, and recommends changes where needed. It outlines protection needed for areas of potential development, identifies water quality and effluent limited segments, and is used to more fully assess the water pollution control needs within the basin.

In order to complete all basin plans by July 1, 1975, it will be necessary to limit the detail somewhat. Future studies are planned that would give attention to water quality limited segments and to problems such as non-point source control and waste load allocation studies.

Needed in the water quality program are: 1) increased permanent monitoring stations; 2) a survey of eutrophication in lakes in the state; 3) a bibliography of water quality data; 4) both field and laboratory procedure manuals; and 5) a water quality data processing system revision, in order to provide compatibility with the EPA Storet System and for machine storage and processing of water quality data. A state water quality inventory report is required to be submitted to Congress on or before April 15, 1975.

De-watering of streams below critical levels for irrigation creates numerous problems in the state, especially where there are numerous municipal and industrial discharges. Even when a very high degree of treatment is required, discharges to a stream with little or no flow cause pronounced water quality limitations.

Of considerable immediate concern are the coalfield developments in eastern Montana, and the potential for pollution of ground and surface waters from sediment due to erosion. Another significant threat to groundwater is that from saline seep problems which have only recently received recognition and study. Also, as requirements for discharge to surface waters become more stringent, much interest is developing in land disposal. Care must be taken in this regard to insure that surface water problems are not transferred to underground waters or develop problems related to air pollution. The drafting and implementation of a groundwater pollution control regulation and designation of the principal aquifers in the state should be undertaken.

Abatement of non-point sources of water pollution will require the expenditure of a considerable amount of state resources. The basin water quality management plans will identify problem areas in a general manner. Follow-up monitoring programs of a relatively involved nature will be needed to characterize the pollutants and their effect on the receiving water, as well as to determine the activity or activities causing the pollution. During and after completion of the monitoring programs, many groups and individuals, with expertise on the particular problems identified will need to be contacted for discussion of feasible alternatives that should be considered in abatement attempts. Guidelines outlining possible abatement techniques will then have to be developed utilizing the information gained from the field work and the experts. The experience and education gained through working with existing non-point pollution problems can hopefully be used to avoid similar problems in the future.

The SDH&ES Water Quality Bureau should assist in the legislative-authorized studies of sediment erosion and saline seep control to the maximum extent possible.

SUBDIVISIONS

One aspect of non-point source control that has received considerable attention recently is that of subdivisions. Subdivision review and approval requires substantial manpower effort, and a section within the Bureau should be established and adequately funded to carry out provisions of the applicable laws and regulations.

The SDH&ES Water Quality Bureau has begun to gear up to an effective enforcement capability. Although some changes in legal structure outside the Department are needed, efforts toward taking action as necessary to enforce provision of applicable laws, rules, and regulations and to establish definite and uniform procedures and guidelines for carrying out administrative and judicial enforcement actions should continue. Also, maximum public involvement in the water pollution control program should be sought.

PUBLIC EDUCATION

In order to foster that public involvement, an on-going effort is needed to provide information and education to the public on the need for high quality, safe water and the protection and conservation of it. Unfortunately, due to manpower shortages and commitments to other aspects of the programs, public education has not received adequate attention from public health personnel at

both state and local levels. A person should be employed and assigned responsibility and authority for information, public relations, and education. This person, through development of graphic, visual, and educational method aides, could enlist the support of local health educators and sanitarians in the attainment of this objective.

An important aspect of the education on the need for high quality water is in the area of municipal water supply development. Areas with increasingly high concentrations of people utilizing 1) individual sub-surface sewage disposal systems, and 2) high groundwater and shallow wells, and/or individual water supplies of poor physical, chemical, or biological quality should be educated as to the public health and community development advantages of a municipal supply.

CONSUMER
INTEREST

Enforcement-oriented agencies will find it difficult to obtain adequate budgets for their efforts unless an informed and vocal citizenry is convinced of the need for their services and is willing to express their opinions to decision-makers. Thus public education emphasizing the need to protect and preserve water quality should be a part of the SDH&ES Water Quality Bureau's activities.

At a time when the problems of waste and excessive resource consumption are being widely recognized in the area of energy, efforts to educate the public on similar problems in water use and misuse would be worthwhile and well received. The taxpayer who is paying on the one hand for water treatment and on the other for waste-water treatment should be made to realize the potential for savings in municipal expense through conservation of water. Present waste of this resource by the average individual is tremendous and greatly in need of improvement.

OBJECTIVE 1: *To insure the potability and safety of the state's municipal water supplies.*

Sub-Objective a: *To provide the SDH&ES Water Quality Bureau with additional funding to allow visits and inspections of municipal water supplies as necessary to insure their proper operation and provision of facilities. Funding should be adequate for the provision of manpower, travel expenses, office costs, etc., and should be provided by July 1, 1975.*

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel who should develop a planned municipal supply water hygiene program, justifying the needed additional manpower and the need for the program and submit the proposal to the legislature. CHP, health interest, and civic groups and citizens should provide the support necessary to insure favorable consideration by the legislature.

Sub-Objective b: *To survey, identify, plan, schedule and obtain correction of deficiencies in 85% of the state's municipal water supplies by December 31, 1976. Problem identification should at least cover plant facilities and operation; distribution system; chemical, physical, and bacteriological water quality; and evaluation of operator capability.*

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel, but is dependent upon attainment of Sub-Objective 1.a.

Sub-Objective c: *To incorporate into water pollution surveillance and monitoring activities, efforts to obtain chemical analysis of a more in-depth nature and with greater frequency from surface waters used for municipal supply by December 31, 1974.*

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel.

Sub-Objective d: *To develop and implement a certification program for private laboratories in the provision of chemical water analysis by December 31, 1975.*

Implementation: Implementation is to be by State Laboratory and Water Quality Bureau personnel.

Sub-Objective e: *To study the various mechanisms through which enforcement of applicable standards, rules, regulations, and laws could be obtained, and to implement the best alternative by July 1, 1975.*

Implementation: Implementation is to be by SDH&ES Legal Unit and Water Quality Bureau personnel. The State Board of Health would have to adopt changes in regulations if this were deemed necessary.

Sub-Objective f: To inform municipal authorities throughout the state whose public water supplies contain less than optimal fluoride levels of the benefits of addition of fluorides and to have fluoridation of the public water supply in at least five cities by December 31, 1976.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau and Public Health Dentistry personnel, with assistance of local public health officials and citizen groups.

Sub-Objective g: To continue and upgrade the training for water plant operators through the use of seminars, newsletters, and personal contact by July 1, 1975.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel who should provide the training and seek grant funds as required to continue these efforts, in conjunction with the state universities.

OBJECTIVE 2: *To provide or make available to the people of Montana services pertaining to the safe and sanitary supply of water on an individual basis from competent, well-trained public health sanitarians.*

Services described in this objective are generally available through local and/or state public health sanitarians and engineers. However, the local sanitarian in many cases does not have the basic knowledge desirable in hydrogeology, in individual water development technique, and in water chemistry and microbiology.

Sub-Objective a: *To provide a seminar for local public health sanitarians on all aspects of individual water supplies and development by December 31, 1975.*

Implementation: Implementation is to be by SDH&ES Environmental Sciences Division personnel who should plan, develop, promote, and present the seminar.

OBJECTIVE 3: To prevent, control, and abate water pollution through a comprehensive program of education, surveillance and problem identification, municipal and industrial discharge improvement, plan development for reducing the impact of major non-point sources, and enforcement.

Sub-Objective a: To make every effort to see that Montana receives additional federal funding for the planning and construction of municipal sewage treatment plants by fiscal year 1975.

Implementation: Implementation is to be by SDHES Administration, Water Quality Bureau and CHP personnel who should lead the efforts to convince EPA of the need to provide the State with additional monies, and to convince the Congress of the need to release additional sewage treatment funds allocated by Congress, but presently impounded by the Bureau of the Budget. Assistance in this effort should be provided by citizens, health and environmental interest groups, and local government officials.

Sub-Objective b: To have EPA approval and signature of an agreement allowing state takeover of the review of facility plans and specifications and operation and maintenance manuals by December 31, 1974.

Implementation: Implementation is to be by SDHES Water Quality Bureau personnel who should assume responsibility for convincing EPA officials of the practicality, efficiency, and elimination of duplicated efforts through such a proposal.

Sub-Objective c: To have submitted for review 36 municipal sewage facility plans, 20 final plans and specifications, 12 operation and maintenance manuals and to conduct 12 final inspections by July 1, 1976.

Implementation: Implementation is to be by SDHES Water Quality Bureau personnel who through development of a needs list should identify those communities in need of the facilities and by local sanitarians, city engineers, and concerned citizens who should provide leadership and education to convince the areas of the public health, environmental, and community development benefits of developing these projects.

Sub-Objective d: To provide at least one operation and maintenance inspection of all 150 public sewage treatment facilities by July 1, 1975.

Implementation: Implementation is to be by SDHES Water Quality Bureau personnel and by local sanitarians who should provide information to the state on facilities experiencing problems in maintenance operation.

Sub-Objective e: To provide training to waste-water treatment plant operators through provision of seminars, newsletters, and video-tape training aids by July 1, 1975.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel, who should provide the training and seek grant funds as required to continue these efforts, and by various units of the Montana university system who should cooperate in the provision of this training.

Sub-Objective f: To have signed the State's application to administer the National Pollutant Discharge Elimination System (NPDES) permit system, and to issue permits to all substantial dischargers in Montana by December 31, 1974.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel, assisted as required by local sanitarians in the identification of discharges.

Sub-Objective g: To survey, quantify, and issue permits to the affected confined feed-lot operations in the state by December 31, 1975.

Implementation: Same as 3.f.

Sub-Objective h: To obtain best practicable control technology from all industrial dischargers by July 1, 1977.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau.

Sub-Objective i: To complete initial river basin water quality management plans in the remaining 13 basins by July 1, 1975; and to complete more intensive study of the stream segments where problems are identified, including waste load allocation studies and non-point source control studies by July 1, 1977.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel.

Sub-Objective j: To establish five additional permanent in-stream water quality monitoring stations by July 1, 1975.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel.

Sub-Objective k: To initiate and develop the capability for an effective monitoring and surveillance system to insure compliance with NPDES permit system. Eight municipal and 13 industrial dischargers should be monitored as required by July 1, 1976.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel with assistance in problem identification and sample collection by local sanitarians as needed.

Sub-Objective l: To complete and implement a laboratory improvement effort including the development of precision and accuracy control techniques, data processing and use compatability, laboratory and field sampling procedures manuals, and provision of additional equipment and instrumentation by December 31, 1975.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel.

Sub-Objective m: To conduct studies to identify lake eutrophication problems, the causes of the problems and sources of the nutrients, and to determine control technology by July 1, 1976.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel, in cooperation with personnel of the National Eutrophication Survey Program.

Sub-Objective n: To complete a qualitative biological survey of major streams, and begin quantitative surveys in selected areas by December 31, 1975.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel.

Sub-Objective o: To provide the United States Congress with a Water Quality Inventory Report by April 15, 1975.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel and should include the following elements:

- a) An inventory of those discharges and those stream and lake segments in violation of 1974 State Water Standards. Compliance schedules for those discharges regulated by NPDES permits should be shown
- b) A description of major water quality problems in streams, including problems from non-point sources
- c) Recommendations for actions needed to solve or abate the state's pollution problems.
- d) A brief narrative summary of the state's pollution control posture.

Sub-Objective p: To identify and designate principal groundwater aquifers in the state, and to continue and expand surveillance efforts of groundwater quality and define problem areas by July 1, 1975.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel.

Sub-Objective q: To draft and have implemented a groundwater pollution control regulation by July 1, 1976.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau and administrative personnel who should draft the regulation and provide testimony and advice to the State Board of Health who must ultimately adopt the regulation.

Sub-Objective r: To participate to the maximum extent possible in the legislature-authorized studies of erosion sediment and saline seep control; and to develop (through the use of information from field studies and expert advisory councils of other governmental agencies and private organizations) guidelines outlining possible abatement techniques for non-point source problems such as erosion sediment, saline seep, nutrients, and acid mine drainage by July 1, 1977. By the same date, a study of the solutions to problems to dewatering streams below critical levels should be undertaken and completed.

Implementation: Implementation is to be by governmental agencies, private organizations, and citizens with an interest in these serious water quality problems.

Sub-Objective s: To provide adequate manpower, facilities, equipment and administrative organization to effectively review and control subdivisions in Montana by July 1, 1975.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau and CHP Division personnel, as well as administrative personnel with assistance from local officials, many of whom will have local regulations to enforce, and who will have to look to the state for various expertise and advice in their decision-making processes. Working together, funding by the legislature should be successfully attained by this group. Health and environmental interest groups should provide additional lobby support.

Sub-Objective t: To establish definite and uniform procedures and guidelines for use by Water Quality Bureau personnel in carrying out administrative and judicial enforcement action by July 1, 1975.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel, with the assistance of the Department's Legal Unit and the legal advisors of the EPA.

Sub-Objective u: To take enforcement action as required to insure compliance with laws, rules and regulations pertaining to water quality.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau personnel, with the assistance of the Department's Legal Unit and with the public health and county attorney personnel of the affected county area.

Sub-Objective v: To provide adequate manpower, facilities, equipment, and administrative assistance to the SDH&ES Water Quality Bureau in order that a comprehensive water quality control program can be continued in future years. This sub-objective is an annual effort.

Implementation: Implementation is to be by SDH&ES Water Quality Bureau, CHP Division personnel who should develop the program plans and who should justify budgetary needs for implementation of the planned programs. Assistance should be provided by health and environmental interest groups and associations, local government officials and concerned citizens.

OBJECTIVE 4: *To provide an educational effort to inform the general population of the need for safe and high quality water, for protection of this valuable resource, and for the need to avoid waste and misuse of water.*

Sub-Objective a: To develop effective training and education packages, with graphic and visual aids and recommend implementation methods, for use in educating the public as to 1) the benefits of public health and community development of provision for a municipal water supply system, 2) the benefits of fluoridation, 3) the need for extensive control efforts to insure protection and preservation of water quality, 4) the need for and benefits of water conservation. This sub-objective should be accomplished by December 31, 1975.

Implementation: Implementation should be by SDH&ES Water Quality Bureau personnel who should develop the materials and methods, and by local sanitarians and educators who should utilize the programs in the field to stimulate action in local areas.

ENVIRONMENTAL HEALTH ELEMENT: SHELTER QUALITY
SUB-ELEMENT: HOUSING

Perhaps the most critical housing problem facing Montanans, especially low- and middle-income persons, is the lack of an adequate supply of safe and sanitary housing at manageable costs. The rate at which housing is made available, current down payments and interest rates, resulting monthly payment schedules, and recent inflation rates have placed home ownership out of the reach of many people. Old deteriorating housing structures grow more dilapidated, and new replacement housing is not available.

MONTANA
SITUATION

A few facts* illustrate the magnitude of the problem in Montana:

- It is estimated that there are 28,574 substandard housing units in Montana. Of these, 2.4% of the urban units and 5.7% of the rural units are without complete plumbing facilities.
- It is estimated that there are 19,897 overcrowded housing units in Montana. Of these, 11,367 are in rural areas.
- There are 14,252 rental units with excessive shelter costs (at least 35% of income paid for rent).
- Today, more than 30 years after the creation of the public housing program, 43 Montana counties with 55% of the state's population still have no public housing. The 1970 census shows that these 43 counties contain 51% of the state's inadequate housing.
- The overall incidence of inadequate housing in the Montana counties without any public housing is higher than that of those counties with some public housing.

RURAL
SITUATION
NATIONWIDE

Montana shares its critical housing situation with other rural states. While the rural housing problem is the nation's worst, it has received little attention from the various levels of government. Again, only a few statements** are needed to make the point:

- Rural areas contain nearly one-third of the nation's population but nearly two-thirds of the country's substandard housing.
- Rural America contains roughly one-half of the nation's poor and more than sixty percent of the elderly poor.
- Twenty-five percent of the poor housing in rural communities is occupied by the elderly.

*Statistics provided by the Housing Division, Department of Intergovernmental Relations.

**Based on material from HUD publications.

--Rural areas receive a disproportionately low share of federal housing resources and other public services--20% of public housing funds and 33% of federal housing assistance funds.

The aim of a housing program for Montana should be to reduce the percentage of Montanans living in substandard housing, and to minimize exposure of the population to unnecessary, residential environmental hazards.

SURVEILLANCE
AND
ENFORCEMENT

At present, involvement in housing by state and local health agency personnel is minimal. The principal efforts are involved with public housing, such as regulation of trailer courts, hotels, motels, apartment buildings, etc. Review of morbidity, mortality, and other health indices indicates an obvious need for more work in this area. The Communicable Disease Center of the Public Health Service has demonstrated a strong correlation between the condition of a neighborhood environment and the status of disease and related problems. It can be anticipated that the highest incidence of disease and related problems will be found in lower socio-economic neighborhoods. Environmental surveillance can provide data as to the size and nature of substandard areas. Such data can be an effective educational tool if properly used, and as such can improve community residential environments. Educational programs aimed at the improvement of housing conditions and at the prevention of home accidents could also result in reduction of related health problems in the community.

STATE
AGENCY
RESPONSIBLE

The Building Codes and Standards Section of the Architecture and Engineering Bureau, State Department of Administration, at present has a staff of one. Code adoption, initiated through the Building Codes Advisory Council and completed through the Department's statutory authority, has been accomplished. However, implementation of even the most limited type program is impossible due to present staff and budget limitations. Addition of three staff positions, and funds for equipment, travel, and ancillary expenses would allow development of a program geared to address the following priority areas: encouragement of code adoption, inspection and enforcement by municipalities; promotion of the extension of authority to a $4\frac{1}{2}$ mile radius of city limits in municipalities with existing programs; support and consultation to existing local programs; a surveillance, inspection, and enforcement effort by state officials of multi-unit dwellings in areas without local control; a state-level program of surveillance and enforcement of mobile home construction standards including development of reciprocity with other states.

PUBLIC
HOUSING

Provision of public housing would be another mechanism for moving people in substandard housing into more suitable facilities. Federal sources of assistance in the provision of low-interest loan money, grants, etc. should be taken advantage of whenever possible. Problems have been noted recently with regard to allocation of federal funds. Monies have been impounded at the federal level, cutting back the already small portion that Montana had received under allocations to the state.

An agency in state government with expertise in housing is needed in order for Montana to become more competitive for the federal dollars in this area. This agency could further coordinate local agencies and units in their efforts to improve housing, and provide consultative services to these people. State "seed" money could be dispensed to local projects in order to get them off the ground while federal dollars were being sought and obtained.

OBJECTIVE 1: *To develop the capability for adequate environmental surveillance and education programs dealing with housing, the residential environment, and related health hazards.*

Sub-Objective a: *To conduct a three to five day seminar on community block survey and socio-economic stratification techniques and on the proper use of survey results and data by July 1, 1975. Also included in this seminar should be information on the home accidental injury problem and on the control of this problem through educational and code enforcement programs.*

Implementation: Implementation is to be by SDH&ES Environmental Services Bureau personnel who should assume responsibility for planning, programming, promoting, and holding the seminar. Resource personnel from the federal and state levels should participate in the program.

Sub-Objective b: *To conduct community block surveys and socio-economic stratification studies in five Montana communities by July 1, 1976.*

Implementation: Implementation is to be by local health department sanitarians assisted by a state housing consultant to be located in the SDH&ES Environmental Services Bureau. The state consultant position would require that additional funding be provided this Bureau for salary, equipment, and travel expenses.

Sub-Objective c: *To have an operating, planned neighborhood improvement program involved with housing health education, neighborhood survey and improvement and having input in planning for the community, in building and housing code advisory councils, and in public housing authorities in three Montana municipalities by December 31, 1976.*

Implementation: Implementation is to be by local health agency personnel who must make a commitment to develop the necessary expertise, allot the necessary funds, and assign the responsibility. Also involved will be SDH&ES Environmental Services Bureau personnel who should take the lead in encouraging and promoting development of this type of program.

Sub-Objective d: *To provide a health education series related to housing and including the health promotion benefits of sanitation, safety, and planned neighborhoods that control crowding, noise, congestion, and traffic, and that provide for privacy, outdoor recreational area, and opportunities for normal family and community life by July 1, 1977. The series should include a complete public education model program with graphic and visual aids, recommended educational techniques, and a listing of additional resources.*

Implementation: Implementation is to be by SDH&ES Environmental Services and Health Education Bureau personnel working cooperatively together.

OBJECTIVE 2: To provide the State Department of Administration, Architecture and Engineer Bureau, with sufficient manpower and budget to implement a program of surveillance, enforcement, and local assistance and promotion.

Sub-Objective a: To provide adequate funding to the Building Codes and Standards Section, Architect and Engineering Bureau, State Department of Administration to allow initiation of priority efforts as discussed in the preceding situation statement.

Implementation: Implementation is by affected Department of Administration personnel who should draft funding proposals and justification statements for presentation to the legislature, and by personnel of state and local health agencies, local building inspection agencies, concerned citizens and associations, who should support these proposals.

OBJECTIVE 3: To provide a mechanism through which improved housing would be made more readily available to low and middle income families and individuals.

Sub-Objective a: To assign to a state agency responsibility and authority for housing and for promotion and coordination of local, state, and national program efforts in the provision of housing by July 1, 1975.

Implementation: Implementation is to be by personnel of those state agencies involved in housing (Health, Administration, Intergovernmental Relations, etc.) who should work cooperatively together to submit to the legislature the necessary proposal. This effort should be supported by local officials, citizen and health interest groups.

Sub-Objective b: To establish a fund within the agency proposal in sub-objective 3.a which would be used as "seed" money to stimulate housing construction and purchase pending the process of application for and provision of federal funds. This sub-objective should be accomplished by July 1, 1975.

Implementation: Implementation is to be by personnel of the agency assigned responsible for housing as referred to in sub-objective 3.a.

Sub-Objective c: To present the proposal for the state providing low-interest loans to supplement available federal funds in stimulating construction and purchase of new housing. This study should be completed by December 31, 1974.

Implementation: Implementation is to be by State Department of Intergovernmental Relations personnel who should submit the proposal and justification for the proposal for legislative consideration. Support should be provided by local officials, citizen and health interest groups.

Sub-Objective d: To enact the Uniform Residential Landlord Tenant Act (URLTA) by 1976. URLTA was developed by the National Conference of Commissioners on Uniform State Laws and was adopted in 1972 as a model bill that strikes an objective balance between the rights and obligations of both tenants and landlords. URLTA holds both landlords and tenants accountable in encouraging the maintenance and improvement of rental units.

Implementation: The Uniform Residential Landlord Tenant Act (URLTA) was submitted to the 43rd Legislative Session and was defeated. In lieu of the bill, a resolution was passed which requested a joint standing committee to study the problems involved in existing Montana

Implementation: (Sub-Objective d cont.) landlord and tenant laws.

The Housing Coalition, the newly-formed entity called for in Sub-Objective 3.a, and concerned citizens should be responsible for reintroducing and supporting URLTA during the next annual session.

Sub-Objective e: To repeal the referendum requirement for the establishment of a local housing authority (LHA).

Implementation: During the 43rd Legislative Session, two bills were introduced which would eliminate the need for local areas to vote for the establishment of a local housing authority. Both bills were defeated.

The Housing Coalition, the newly-formed entity called for in Sub-Objective 3.a, and concerned citizens should be responsible for reintroducing and supporting a bill of this nature during the next annual session.

ENVIRONMENTAL HEALTH ELEMENT: SHELTER QUALITY
SUB-ELEMENT: PUBLIC ESTABLISHMENTS AND INSTITUTIONS

PUBLIC
ESTABLISH-
MENTS

Although regulations over public establishments are generally satisfactory, regular inspection of these facilities is quite often not accomplished. Manpower shortages, due to other demands, have diverted attention from this environmental health effort. Increases in personnel at both state and local levels as well as more adequate training in this environmental health component are needed for truly effective surveillance and control. (Local manpower needs have been addressed in the Provision of Services, State and Local Government section of this report, and are not mentioned here.)

INSTITUTIONS

Institutional regulation authority by SDH&ES is provided for in existing laws; yet, this aspect of environmental health has not developed to a desirable level. The only possible exception to this statement is regulation over environmental health problems in hospitals where recent efforts by the SDH&ES Hospital and Medical Facilities Division have been instituted.

PROJECTED
NEEDS

The addition of one and one-half sanitarian man-years to the SDH&ES Environmental Services Bureau would allow the establishment of an institutional sanitarian consultant unit within the Bureau. The personnel of such a unit could do much to improve the institution surveillance and control effort, beginning with the development of a comprehensive set of regulations covering the various types of institutions. Present regulations pertaining to schools should be revised and directed toward maintenance of environmental health considerations as well as their provision in the planning and construction phases. Regulatory authority for penal institutions, orphanages, and mental and other health care institutions is needed. Review of methods that could be utilized to obtain better coordination between the Hospital and Medical Facilities Division and the Environmental Services Bureau and local health agencies in the control of hospital and nursing home regulation needs to be undertaken.

The Institutional Health unit could also be assigned responsibility for local sanitarian training in the provision of institutional surveillance and control efforts.

OBJECTIVE 1: *To provide an effective environmental health surveillance and control effort over public establishments.*

Sub-Objective a: To provide additional funding to the SDH&ES Environmental Services Bureau allowing staff expansion in the public establishment section by one-half man year, and allowing adequate funds for travel, equipment, books and journals, and in-service training by July 1, 1975.

Implementation: Implementation is to be by SDH&ES Environmental Services Bureau personnel who should plan for effective service provision and justify the need for additional personnel in legislative proposal, by CHP, health interest and civic groups, and citizens supporting the proposal.

Sub-Objective b: To provide effective consultation services in the public establishment control program, and to provide in-service training to local sanitarians on the problems and control methods used in regulating public establishments by July 1, 1976.

Implementation: Implementation is to be by SDH&ES Environmental Services Bureau personnel but is dependent upon attainment of sub-objective 1.a.

OBJECTIVE 2: To provide an effective environmental health surveillance and control effort over institutions.

Sub-Objective a: To provide funds to the SDH&ES Environmental Services Bureau allowing for additional manpower and effort expenditure in the area of institutional environmental health control. Adequate funding to provide a one and one-half sanitarian man-years staff increase with funds for travel, office and field equipment, etc., provided by July 1, 1975.

Implementation: Implementation is to be by SDH&ES Environmental Services Bureau personnel who should plan a program for institutional surveillance and control justifying the needed additional manpower and the program, and submit the proposal to the legislature. CHP, health interest groups and organizations, civic groups, and individual citizens should provide support for the proposal in the legislature.

Sub-Objective b: To study and develop a comprehensive set of regulations effectively controlling institutional environments from a public health standpoint by July 1, 1976. If legislative authority is needed to adopt the regulations, this must be undertaken as well.

Implementation: Implementation is to be by SDH&ES Environmental Services Bureau personnel but is dependent upon attainment of Sub-Objective 2.a.

Sub-Objective c: To provide effective consultation services in the institution control program, and to provide in-service training to local sanitarians on the problems and control methods used in regulating institutions by July 1, 1976.

Implementation: Implementation is to be by SDH&ES Environmental Services Bureau personnel, but it is dependent upon attainment of Sub-Objective 2.a.

ENVIRONMENTAL HEALTH ELEMENT: SHELTER QUALITY
SUB-ELEMENT: PRODUCT SAFETY AND INJURY CONTROL

Past efforts to obtain legislative authority for involvement in hazardous substance control and injury control education have been unsuccessful.

CONSUMER
PRODUCT
SAFETY ACT

In 1972, the federal government took action in this environmental health problem area by passing the Consumer Product Safety Act and by creating a Consumer Product Safety Commission to implement provisions of the Act. This Commission is directed by the Act to establish a program to promote federal-state cooperation for the purpose of carrying out the Act, and is authorized to enter into agreements with state and local government units for assistance in provision of activities in areas such as injury data collection, investigation, and educational programs, and may reimburse these agencies for the reasonable cost of such assistance.

The Commission may further appoint any qualified officer or employee of any state or local agency as an officer of the Commission for the purpose of conducting examinations, investigations, and inspections. Environmental health officials of the SDH&ES should thoroughly study and evaluate possibilities for developing product safety and injury control programs in cooperation with the federal Consumer Product Safety Commission.

OBJECTIVE 1: To obtain the necessary authority and funding for state involvement and program development in the area of product safety and home injury control.

Sub-Objective a: To authorize state involvement and program development through SDH&ES in product safety and home injury control by July 1, 1975.

Implementation: Implementation is to be by SDH&ES Environmental Services Bureau personnel and the Consumer Affairs Division of Intergovernmental Relations Department of state government who would work cooperatively to study program possibilities, and who should draft legislation to authorize state involvement. The legislative proposal should be supported by CHP, health interest groups and organizations, civic and consumer groups and individuals.

Sub-Objective b: To plan, develop and implement a program of federal-state-local cooperation involving environmental health personnel for the provision of control efforts in product safety, hazardous substances, and injury control education by December 31, 1975.

Implementation: Implementation is to be by SDH&ES Environmental Services Bureau personnel but is dependent upon attainment of Sub-Objective a.

Sub-Objective c: To have operating product safety-injury control programs within four local health agencies by December 31, 1976.

Implementation: Implementation is to be by SDH&ES Environmental Services Bureau personnel but is dependent upon attainment of Sub-Objectives a and b.

The program development planning should consider at least the following:

- 1) Problem definition through injury data collection and investigation.
- 2) Needs in codes, ordinances, and regulations.
- 3) Methodology for educational activities.
- 4) Delineation of responsibility among members of the federal-state-local partnership.
- 5) Mechanisms of establishing cooperative working relationships with other governmental agencies.
- 6) Means of providing for citizen participation.

ENVIRONMENTAL HEALTH ELEMENT: SHELTER QUALITY
SUB-ELEMENT: SOLID WASTE

Although progress has been made in recent years, many Montana communities still do not have acceptable procedures and methods for handling their solid wastes.

TRAINING AND
FORMATION
OF DISTRICTS

Training sessions should be provided to local governmental units to show methods by which acceptable solutions to the solid waste problem can be implemented, and these educational efforts should be supplemented by enforcement in situations where local government refuses to take proper action. Creation of solid waste districts offers the best opportunity for the provision of acceptable solid waste management principles, and utilization of such districts in a regional concept offers substantial benefit to smaller local governments willing to cooperate in this area.

Legislation and regulations recently passed pertaining to junked vehicle removal and hazardous waste disposal need to have workable programs planned and implemented by county officials and SDHES Solid Waste Management Bureau personnel respectively.

The state effort to provide education to reduce the incidence of accidental injury on the job to solid waste collection personnel needs to be continued.

Our approach to solid waste, as well as many other environmental programs, has been simply to address ourselves to the regulatory provision of systems handling the results of waste and misuse by the citizens. Embryonic recycling efforts, while they deserve support and encouragement, remain unable to cope with the amounts of solid waste now being generated. Resource recovery needs to be given planned consideration and to be tied in to source reduction programs and efforts.

OBJECTIVE 1: To increase the number of Montana communities with acceptable solid waste management systems. Although progress has been made in recent years, many Montana communities still do not have acceptable procedures and methods for handling their solid wastes.

Sub-Objective a: To conduct 25 training sessions for local political officials, government personnel and citizens by July 1, 1975.

Implementation: Implementation is to be by SDH&ES Solid Waste Management Bureau, whose personnel should assume responsibility for planning, promoting, coordinating and holding these sessions in an areawide approach such that attendance is feasible by local people throughout the state. Special effort will have to be made to make these sessions available to officials and residents of the 166 Montana communities of less than 1,000 population. The sessions should deal comprehensively with solid waste management and its application at the local level. Local county sanitarians should assist state personnel in provision of these sessions.

Sub-Objective b: To take enforcement action by December 31, 1974, against at least one community that continues to reject other means of seeking provision of adequate solid waste disposal facilities.

Implementation: Implementation is to be by SDH&ES Solid Waste Management Bureau, the SDH&ES legal advisory staff, and the County Attorney of the county affected. The state staff should assume the responsibility of developing the necessary background information, of instituting the necessary legal proceedings, and of providing the testimony, etc. as required to see the proceedings through.

Sub-Objective c: To have established in the state twelve additional refuse disposal districts by July 1, 1976. At least one regional district should be created.

Implementation: Implementation is to be by county sanitarians in cooperation with personnel of the SDH&ES Solid Waste Management Bureau. County sanitarians should assume responsibility for working with local government officials and citizen groups in promoting the disposal district, and the state personnel should assist by making themselves available to informational and organizational meetings, by providing consultation to local officials, and by enforcing proceedings as will encourage local action.

Sub-Objective d: To have approved and operational the plans and programs of all 56 Montana counties for the storage and removal of junk vehicles by July 1, 1975, and to have 70% of the state's backlog of junked vehicles processed and removed for recycling by December 31, 1975.

Implementation: Implementation is to be by county commissioners and local government officials in cooperation with SDH&ES Solid Waste Bureau personnel. State personnel must encourage and assist the local officials who must, in the end, develop the plans for programs in their areas. All involved must recognize that the operation of this new program will require some trial and error, and allowance for some degree of flexibility and adjustment should be provided. Government officials at both levels must cooperate with the private metal salvage industry people such that the objective of removing junk vehicles by some party is attained.

Sub-Objective e: To implement by July 1, 1975, the licensing and screening provisions pertaining to junk-car graveyards.

Implementation: Implementation is to be by SDH&ES Solid Waste Management Bureau personnel, local sanitarians and regulatory personnel. Local sanitarians should assist state personnel by contacting and advising auto graveyard owners, and by reporting local progress and problems. State personnel are ultimately responsible, and should take appropriate action to see that the intent of the law is complied with.

Sub-Objective f: To implement the provisions of a hazardous waste regulation by December 31, 1975.

Implementation: Implementation will involve personnel from both the SDH&ES Solid Waste and Environmental Services Bureaus, as well as local health, solid waste, and political officials. On this basis of hydrological, geological, and land use evaluations, state personnel have the responsibility of designating disposal areas as to the types of waste they will be allowed to accept. State personnel should also proceed with efforts to obtain funding from EPA and land from BLM for the purpose of establishing a hazardous waste disposal site, and for a field testing location near Glasgow to research and develop studies of biodegradation and deep burial of hazardous solid wastes. Local officials will need to cooperate with the state in the provision of data needed to classify sites, in the provision of public education necessary for successful implementation of the program, and in local surveillance of the sites.

Sub-Objective g: To evaluate and report on the occupational health and safety methods of the state's ten largest cities' collection programs and to provide these cities access to training aids for employee education by December 31, 1975.

Implementation: Implementation is to be by SDH&ES Solid Waste Bureau personnel in cooperation with local sanitarians, private and public solid waste haulers, and the SDH&ES Occupational Health Bureau staff. An EPA training program entitled OPERATION RESPONSIBLE would be the core of the educational effort.

OBJECTIVE 2: *To develop source reduction and resource recovery technologies and programs such that increased efforts by citizens and communities are achieved.*

Sub-Objective a: *To produce and make available to local sanitarians a slide-cassette-tape program on resource recovery and a similar program on source reduction, as well as radio and television public service announcements, and sample newspaper editorial and articles on these topics, by July 1, 1975. To have the slide programs shown to 2,500 Montana citizens, and the public service material aired on radio and television stations, by July 1, 1976.*

Implementation: Implementation is to be by SDH&ES Solid Waste Bureau personnel and county sanitarians. In a time of energy and many product shortages, an educational effort of this nature could be very effective.

Sub-Objective b: *To evaluate wood hog chip burners in western Montana as a user of rubber tire chips for combustion by December 31, 1974, and to implement a statewide program of collection, storage, and processing of rubber tires, if shown feasible, in conjunction with the junk car program by July 1, 1976.*

Implementation: Implementation is to be by SDH&ES Solid Waste Bureau and Air Quality Bureau personnel in evaluation of this resource recovery source. If feasible, the Solid Waste Bureau personnel should work out the details of implementation, and work with local programs and personnel to get the projects underway.

Sub-Objective c: *To study and evaluate markets for re-using paper and paper products, the principal component of municipal solid wastes, by July 1, 1975. To develop mechanisms for paper recycling by institutions, municipalities, and private citizens and businesses by December 31, 1975, if shown feasible.*

Implementation: Implementation is to be by SDH&ES Solid Waste Bureau personnel who should conduct a study of methods of marketing, collection, and transportation of these products, and develop a written report that would be used to implement their findings.

Sub-Objective d: *To work with the city of Great Falls and to research and develop resource recovery markets and separation techniques for milled refuse by July 1, 1975, and to work with the CHP South Central Areawide on the utilization of milled refuse in land reclamation associated with strip-mining.*

Implementation: Implementation is to be by SDH&ES Solid Waste Bureau personnel, county sanitarians, and the local Public Works Department officials who should work cooperatively to study, report on, and implement available resource recovery methods.

Sub-Objective e: To research and develop for a legislative proposal by July 1, 1976, the concept of taxing wholesalers' and manufacturers' gross sales on any product that will eventually enter the solid waste stream. The concept should include state collection of the tax, the generated monies to fund the state program (now faced with cut-backs of federal funding) and to be redistributed to local governments for provision of solid waste management services including collection, transportation, processing, resource recovery, and disposal. District and regional programs could be favored under such a program. The concept and study should additionally investigate the possibility of a higher tax rate for "excess" waste, non-degradable waste, and hazardous waste in product production and packaging.

Implementation: Implementation is to be by SDH&ES Solid Waste Bureau personnel who should work toward obtaining a legislative joint resolution for the review and study of such a proposal. The state personnel should be involved extensively in such a study, and should work to see that the results of the study--if shown practicable--are introduced for legislation.

ENVIRONMENTAL HEALTH ELEMENT: SHELTER QUALITY
SUB-ELEMENT: OCCUPATIONAL HEALTH AND SAFETY

BACKGROUND

The 1970 Federal Occupational Safety and Health Act (OSHA) sought participation of the states in implementing the law and the rules and regulations promulgated under the act. In Montana, the Workman's Compensation Division of the Department of Labor was recognized as the lead agency by the federal government and has developed plans for implementing an OSHA program in the State.

In the 1974 Legislature, proposals to grant this agency full authority failed due to pressures from labor unions and health interest groups and to concerns centered around high-level investigations then underway involving frauds within the Workman's Compensation Division.

STATE
PROGRAM
RESPONSI-
BILITIES

Regardless of which State agency receives authority for implementing an Occupational Health and Safety Program, it is imperative that proper attention be given to industrial hygiene and environmental health concerns. This attention must be such that qualified and competent professional personnel are employed to carry out the program. Existing plans and programs do not give adequate attention to the provision of health-oriented services or of professional health personnel such as industrial hygienists, environmental engineers, sanitarians, and laboratory chemists.

Relating illness resulting from chronic exposure to noise, inferior lighting, ergonomic stress, exposure to toxic gases, fumes, dusts, chemicals, and pathogens is often a difficult task and cannot be accomplished without the expertise of the health professionals mentioned above, as well as proper equipment, laboratory services and epidemiological assistance.

The State program should also be based on a spirit of cooperation, education, and prevention coupled with enforcement when necessary to abate serious conditions or to obtain compliance with codes and regulations.

The State program should provide consultative services and courtesy inspections of businesses to allow them to discover what the OSHA laws and regulations require and what actions on their part will satisfactorily fulfill those requirements.

OBJECTIVE 1: *To implement a State effort capable of effective and efficient control of the occupational health and safety aspects of the working-place environment.*

Sub-Objective a: To develop a model program for the effective delivery of a thorough Occupational Health and Safety Program by December 31, 1975, and provide this model in the form of a report to the Governor and to the State office dealing in planning and provision of governmental services.

Implementation: Implementation is to be through a joint effort of the SDHES Occupational Health & Safety Bureau; the State Department of Labor, Workman's Compensation Division; and the Federal Bureau of Occupational Safety and Health. This effort should insure that all program elements and needs are addressed regardless of what agency is to implement the proposed program.

Sub-Objective b: To provide input into all proposals to develop and implement a State OSHA program insuring that environmental health concerns are given proper attention and that the necessary health professionals are involved in the provision of these services. (This task should be completed prior to the date that they are submitted for legislative consideration.)

Implementation: Implementation is to be by SDHES Administrative, Occupational Health and CHP Divisions' staff, as well as health interest groups and concerned citizens who should review all proposals comparing them to the model developed in the previous sub-objective. Those groups should recommend changes where needed to the developers of the proposals as well as to the legislators who must ultimately make the decision on the proposals. Additional support should be provided by union and business organizations.

Sub-Objective c: To have a State OSHA program that corresponds closely to the model developed in Sub-Objective a implemented and adequately funded by July 1, 1976.

Implementation: Implementation is to be by all State agency personnel concerned with the safety and health of the worker with the support of unions, health and civic groups, and the business community.

OBJECTIVE 2: *To provide the major local health agencies with necessary training in order to enable them to more effectively utilize the workplace as a delivery point for public health services, and to more effectively provide assistance to the State program. (No local health program at present effectively utilizes the workplace as a point of delivery of public health services, nor does any local program have occupational health expertise.)*

Sub-Objective a: To establish and adequately fund within the Bureau of Occupational Health, SDHES, a position whose responsibility would include provision for consultation and training of local health departments and governments in the area of occupational health, noise, and radiation by July 1, 1975.

Implementation: Implementation is to be by SDHES Occupational Health Bureau personnel who could make the necessary appointment and placement of responsibility if adequate funding were made available.

Sub-Objective b: To provide a 3 to 5 day seminar on Occupational Health to health providers, as well as private concerns of the State, by December 31, 1976.

Implementation: Implementation is to be by the cooperative efforts of the State OSHA agency, when and if designated; the SDHES Occupational Health and Safety Bureau; and the Montana Health Association who should work together to arrange for programming, funding, facilities and provision of such a program.

Sub-Objective c: To provide major local health agencies with various educational materials allowing them to develop local programs to inform workers of the health hazards of their working environment and of basic concepts of health promotion by July 1, 1977.

Implementation: Implementation is to be by the cooperative efforts of the SDHES Occupational Health and Health Education Bureaus who should develop the educational materials and a model delivery system for providing this training and by local health educators and sanitarians who should administer the program on a local level.

ENVIRONMENTAL HEALTH ELEMENT: SHELTER QUALITY
SUB-ELEMENT: NOISE

Montanans still have an opportunity to avoid the severe problems related to noise pollution currently facing many other areas of the U.S. The aim should be to develop a system for controlling noise to the greatest extent possible through a federal/state/local cooperative effort of enforcement and education.

NOISE
CONTROL
PROGRAM

Past legislation to allow development of a community noise control program within the State Department of Health and Environmental Sciences' Occupational Health Bureau has failed to pass. This type of authority and a working budget on which to operate would allow a more extensive state effort in the areas of local program code development, technical consultation, laboratory and equipment standardization, and the promotion and coordination of local efforts. An adequately-funded program could additionally do control work and field investigation of severe noise problems in the areas not having local control.

Existing local control programs are generally in need of technical advice and assistance, program and equipment consultation, and back-up for enforcement efforts.

Although industrial or occupational noise is not addressed in this section, it is a health concern dealt with in occupational health programs.

OBJECTIVE 1: To obtain the necessary legislation for the State Department of Health and Environmental Sciences to become involved in noise control and to implement local programs for effective control.

Sub-Objective a: To pass legislation providing for involvement of the State Department of Health and Environmental Sciences' Occupational Health Bureau in community noise control and to include adequate funding for implementation of this program by July 1, 1977.

Implementation: Implementation is to be by SDHES Occupational Health Bureau and personnel assuming the responsibility for drafting and justifying the legislative proposal. Also, CHP, local health and government officials, as well as health interest groups and civic groups should provide support for the proposals.

Sub-Objective b: To plan and implement a program for promotion of local noise control efforts including development of a model ordinance, listing of state supportive services, and public education materials detailing the need for and benefit of local control efforts by July 1, 1978.

Implementation: Implementation is to be by SDHES Occupational Health Bureau personnel but is dependent upon attainment of Sub-Objective a.

Sub-Objective c: To implement seven local noise control programs that meet the recommended outline of the SDHES by December 31, 1979.

Implementation: Implementation is to be by local health and police officials who should work to have these control ordinances adopted by their governing officials. The SDHES Occupational Health Bureau personnel should provide assistance and expert advice in this process. Attainment of Sub-Objectives a and b are necessary for the implementation of this effort.

OBJECTIVE 2: To develop more expertise among local health personnel on the effects and control of noise. (Local public health officials are poorly informed on this environmental problem and are unable to provide efforts in the areas of public education, advice on control of noise sources or promotion of local control efforts.)

Sub-Objective a: To hold a seminar for local health officials on environmental noise, its effects and control in five Montana localities by December 31, 1975.

Implementation: Implementation is to be by SDHES Occupational Health Bureau personnel who should plan and promote such a program and by the Montana Environmental Health Association, who should assist in determining locations and obtaining attendance of its members, principally local and state public health sanitarians.

Sub-Objective b: To develop an educational package for use by the state and local health personnel that would inform the public of the effects and control of noise (especially on an individual level) by July 1, 1978.

Implementation: Implementation is to be by SDHES Occupational Health and Health Education Bureaus' personnel who should work together to assemble a package of audio-visual and graphic aids that would assist local health officials in their provision of this educational effort.

ENVIRONMENTAL HEALTH ELEMENT: SHELTER QUALITY
SUB-ELEMENT: RADIATION

CURRENT
SITUATION

The radiation protection activities in the state are presently conducted by the State Department of Health and Environmental Sciences, Occupational Health Bureau. Due to extreme budget and staff limitations as well as responsibilities to other programs, the radiation protection programs have not been developed to a desirable level. There is a need for revising administrative rules and regulations in order that compatibility with federal standards of the Food and Drug Administration, Atomic Energy Commission, and the Environmental Protection Agency is obtained.

Controls should be extended to cover non-ionizing radiation sources, and the certification of people applying ionizing radiation to humans (primarily radiological technologists).

Montana should develop and implement an Agreement State Arrangement with the Atomic Energy Commission. Such an agreement would transfer to the State authority for licensing and control of by-product material, source material and the users of these materials. A better knowledge of the State and its problems, in addition to more readily available offices and personnel, would provide for improved control utilizing the Agreement-State concept.

RADIATION
USE IN THE
HEALING
ARTS

The use of radiation in the healing arts constitutes the major man-made component of radiation exposure to the people of Montana. Although the benefits to health generally outweigh the danger from radiation exposure, controls should be exercised such that : 1) facilities and equipment do not cause unnecessary exposure; 2) techniques for using equipment insure maximal clinical results with minimal radiation exposure of patient and operator; 3) judgments regarding the need for x-ray examination and or treatment are made with appropriate consideration to the hazards of radiation exposure; and 4) licensed radiologic technologists who are specially trained are utilized and consulted.

MINING
AND INDUS-
TRIAL
RADIATION

A comprehensive source control and surveillance program should also provide for periodic inspections of mining and industrial radiation users including radiographers, well loggers, nuclear density gaugers and schools using radiation sources or materials.

ENVIRON-
MENTAL
RADIO-
ANALYSIS

Furthermore, limited environmental radioanalysis has been done in the state to date with exception of the project presently underway defining baseline radioactivity in and near the Colstrip coal development area. The Colstrip study is being accomplished through a contract agreement with the Department of Conservation and Natural Resources which will terminate in August, 1974. Continuation of the study as well as expansion of environmental radioanalysis to the rest of the state, to industrial sites, and to water, food, vegetation, and soil sampling, is dependent upon securing the funding necessary to hire and equip the personnel to do the work. Present staff and funding do not allow any expenditure of effort in this area.

EDUCATION

Many of the existing problems involving radiation exposure are the result of lack of knowledge concerning radiation effects, radiation control, or proper radiation usage techniques. This statement is applicable to users of radiation in the healing arts, industry, and education as well as the general public.

Local public health officials are also poorly informed on this health problem. Through the utilization of local officials, information could be distributed to a wider segment of the general population.

OBJECTIVE 1: To develop a source control and surveillance program equipped with adequate regulations, personnel, instrumentation, fiscal support, and organization to effectively regulate the use of ionizing and non-ionizing radiation, and to thus protect the people of Montana from unnecessary exposure.

Sub-Objective a: To revise regulations used in implementing the radiation control program by July 1, 1976. This revision should provide compatability with corresponding federal agency regulations and with those of other states.

Legislation should also address control of non-ionizing sources of radiation such as lasers, microwave, ultrasound, ultraviolet, infrared, etc.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences Occupational Health Bureau personnel who should draft the legislative proposals, and by Comprehensive Health Planning, health interest associations, and the State Department of Health and Environmental Sciences supervisory personnel who should work for favorable passage of the legislation.

Sub-Objective b: To revise the rules and regulations pertaining to radiation control such that a comprehensive program can be initiated by July 1, 1977.

Implementation: Implementation is dependent upon I.a. However, it would be by State Department of Health and Environmental Sciences, Occupational Health Bureau personnel and the State Board of Health.

Sub-Objective c: To finalize and complete signing of the necessary forms for designation of Agreement State status and authority by December 31, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Occupational Health Bureau personnel who should coordinate efforts and advise the Governor and his staff of the benefits of entering such an agreement.

Sub-Objective d: To adequately organize, staff, and equip the radiation control section for effective comprehensive control capability by July 1, 1976. The addition of two Radiation Control Specialists and an adequate budget is needed.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences Occupational Health Bureau personnel who should develop the program plans, indicating problems, objectives and the needs for personnel, budget, and equipment to implement the plan. Comprehensive Health

Implementation: (continued) Planning, private and public health interest groups and associations such as the American College of Radiology and American Society of Radiologic Technologists should provide the necessary backing to insure funding.

Sub-Objective e: To pass legislation requiring the licensing by SDHES of radiologic technologists by July 1, 1977.

Implementation: Implementation is to be by the Montana Society of Radiologic Technologists who are formulating the legislative proposal and by CHP and other involved SDHES interests and by health interest groups and associations who should lobby in support of the proposal. Development of rules, regulations, training programs, administrative procedures, etc., would follow passage of the law, and would be a responsibility of the SDHES Occupational Health Bureau personnel.

Sub-Objective f: To locate and license users of radioactive materials and sources by December 31, 1976. This process should include an initial evaluation of the users and of the materials and sources, as well as the manner in which they are being used to determine compliance with applicable State standards.

Implementation: Implementation is to be by SDHES Occupational Health Bureau personnel, but is dependent upon attainment of Sub-Objectives 1.a., 1.b., 1.c., and 1.d.

OBJECTIVE 2: To design and implement an adequate environmental radio surveillance system for the purpose of defining existing background radiation levels as well as determining whether or not industrial emissions from smelters, phosphate plants, and coal and energy development projects are a significant threat to human health and the environment.

Sub-Objective a: To develop a program plan for an adequate environmental radioanalysis and surveillance system, and to obtain the necessary manpower, equipment, travel and administrative costs as called for in the plan by July 1, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Occupational Health & Safety Bureau personnel who should develop the proposal, and by State Department of Health and Environmental Sciences supervisory personnel, CHP, and health interest groups who should give adequate support to the proposal to insure its adoption.

Sub-Objective b: To monitor and determine background levels of radiation in the State and to study in more detail the areas of known or suspected high uranium and thorium deposits, the smelters, the phosphate plants and the coal and energy development projects by December 31, 1976.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Occupational Health Bureau personnel, but is dependent upon the attainment of Sub-Objective 2.a.

Sub-Objective c: To establish cooperative working agreements with federal agencies involved in radiation disaster control, in milk, water, vegetation, and soil surveillance networks by July, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Occupational Health Bureau personnel, but is dependent upon attainment of Sub-Objective 2.a.

Sub-Objective d: To implement an effective data reduction, processing and reporting system for environmental radio surveillance data by December 31, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Occupational Health Bureau personnel, but is dependent upon attainment of Sub-Objective 2.a.

OBJECTIVE 3: *To develop educational materials and programs and to provide consultative services on radiation problems to industry, to users of radiation sources and materials and to local health officials and the general public. Among the influential groups which may be instrumental in developing such materials is the Montana Society of Radiologic Technologists.*

Sub-Objective a: To distribute to the healing arts practitioners information relative to the health effects of radiation, in order that attention is given to this aspect when decisions regarding specific x-ray examinations or treatment are made. This task should be completed by December 31, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Occupational Health Bureau personnel, in cooperation with the various national and local healing arts associations.

Sub-Objective b: To study the most effective methods for providing training and continuing education to local healing arts practitioners, to radiologic technologists, and to local public health personnel by December 31, 1977. If Sub-Objective 1.e. is accomplished during this period, determination of the specific methods for training requirements and for attainment of these requirements will need to be considered under a radiologic technologist certification regulation.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Occupational Health and Health Education Bureaus, while provisions of the training sessions would involve principally Occupational Health Bureau personnel with assistance as required by the various associations, societies, etc.

Sub-Objective c: To develop an information education package to assist local public health personnel in provision of education to the general public. The package should include audio-visual materials, press packet, graphic and written information materials, and suggested educational approaches. They should be developed by July 1, 1976.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Occupational Health and Health Education Bureaus' personnel.

ENVIRONMENTAL HEALTH ELEMENT: SHELTER QUALITY
SUB-ELEMENT: PESTICIDES AND VECTOR CONTROL

It is important to maintain an effective surveillance of disease vectors and the incidence of vector-borne disease, and to develop the capability to control these vectors when they threaten man's health or severely limit his use and enjoyment of the environment. But at the same time, the use of chemical agents to control vectors and pests must not adversely affect human health or the environment.

STATE
SURVEILLANCE

Vector and vector-borne disease surveillance information is carried out at present principally through one staff person in the State Department of Health and Environmental Sciences' Environmental Services Bureau, with assistance from Records and Statistics and Preventive Health Services Bureaus. This same individual is also responsible for consultation to local programs in the form of resistance studies, ultra low-volume equipment calibration, biologic control methods and research, training services, and provision of public information and education.

LOCAL
EFFORTS

The mosquito is the States' principal vector and pest problem, and control efforts are carried out on the local level. These efforts may be characterized by indiscriminate and improper use of pesticides, grossly unscientific approaches, and resulting inefficiency and ineffectiveness. Where formal Mosquito Abatement Districts have been formed, more knowledgeable people have generally been hired or contracted to direct the field operations, resulting in more effective, efficient, and safe use of pesticides for control. Chemical control has also been supplemented by source reduction and natural control efforts.

A problem with the Mosquito Abatement District concept, however, is that other vector problems that may arise may not be given attention. When problems arise, funds should be allowably used for control of rats, flies, skunks, etc.

There is at present no type of contingency fund or funding mechanism defined through which the State could assist local areas both economically and operationally in times of near disaster or emergency situations resulting in excessive vector and/or disease agent populations.

Water development programs, in general, and irrigation projects, in particular, can and do create conditions conducive to production of excessive vector populations. Study is needed to determine how vector control authorities can take effective action to improve conditions of existing projects, and how they can insure input into developing and proposing projects to provide that future problems are minimized.

COORDINA-
TION

The accomplishment of an effective surveillance and control program to insure protection of human health and of air, water, food and land from damaging pesticide contamination is dependent upon development of a coordinated federal-state-local effort involving multiple agencies. On the State level the SDHES and Pesticides Division of the Department of Agriculture have principal responsibility. Improved communication mechanisms should be defined in order that gaps in these programs, as

well as duplications of effort, are identified and can be corrected.

A principal need is to develop the capability to react properly to potential or real problems that occur. Surveillance should be an activity of this program, and should involve increased activity in the area of monitoring those persons occupationally involved with pesticide application.

The Pesticide Division of the State Department of Agriculture is presently planning to implement provisions of a recently passed Federal law regulating pesticide usage. This legislation will identify pesticides as general or restricted use. Restricted use pesticides will only be purchasable by certified pesticide applicators. The State will have to develop the capability for provision of necessary training, certifying, and enforcing provisions of this regulation. (Farmers and ranchers, as well as pest control operators, will need to become certified.)

OBJECTIVE 1: *To develop an effective surveillance program to detect increases in vector populations and outbreaks in vector-borne diseases and to develop an effective operations program to prevent vector-associated epidemics and problems.*

Sub-Objective a: *To obtain the needed funding to hire, train, and equip a one-half man increase in the SDHES Environmental Services Bureau's Vector Control Program by July 1, 1975.*

Implementation: Implementation is to be by SDHES and the Environmental Services Bureau personnel who should develop and justify program plans with the additional manpower requested, and with the responsibilities, duties, and objectives of the position detailed. Principal activities should be assistance in surveillance of vector populations and disease incidence, and in study of biological (life cycles, requirements), psychosocial (impact on human populations), and economic factors of the problem. The State personnel should further research sources of funding including federal monies, foundations and State resources.

Sub-Objective b: *To have created and operational an additional ten (10) Mosquito Abatement Districts in areas of the State where they are needed by December 31, 1976.*

Implementation: Implementation is to be by SDHES Environmental Services Bureau who should survey present efforts and problems and identify areas most in need of the Control Districts, and work to stimulate local officials and citizens to create the District. County sanitarians should assume a leadership role in the local areas and, with assistance from State personnel, demonstrate and educate the citizens as to the advantages of Control Districts. Local health interest and civic groups should provide assistance in petition circulation and information distribution. The Districts, once formed, should be headed by a competent and capable individual, preferably with education and experience in vector control, pesticides and entomology or should contract for control services with a capable private operation.

Sub-Objective c: *To develop a complete audio-visual and graphic program which would explain vectors, diseases, and means of control and which would have use in promoting the formation of Control Districts by July 1, 1975.*

Implementation: Implementation is to be by SDHES Environmental Services Bureau personnel with assistance from the Health Education personnel of the Department.

Sub-Objective d: To study and evaluate the various means by which the State could develop a contingency fund which could assist local areas in vector control during near-disaster or emergency situations, and to report a recommended measure for consideration by appropriate authorities by July 1, 1976. The means of providing this type of contingency may already exist, and may only have to be defined and agreed upon, with procedural outlines provided for their use.

Implementation: Implementation is to be by SDHES Environmental Services Bureau personnel, with assistance from other agencies as needed.

Sub-Objective e: To authorize involvement of personnel and monies of Mosquito Abatement Districts in the control of other vectors by July 1, 1975.

Implementation: Implementation is to be by SDHES Environmental Services Bureau personnel who should recommend such changes in law to the legislature. Local government health interest groups, and citizen groups should provide the backing necessary to assure passage of the legislative proposals.

OBJECTIVE 2: To reduce the impact of existing and proposed water development programs (principally irrigation projects) as sources of vector production.

Sub-Objective a: To study and recommend methods of providing health and vector control in-put in the planning of water development programs by December 31, 1975.

Implementation: Implementation is to be by SDHES Environmental Services Bureau personnel, but is dependent upon attainment of Sub-Objective 1.a.

Sub-Objective b: To study and recommend methods of providing incentives to users of existing water development projects in order that the maintenance and methods of utilization give attention to vector control problems.

Implementation: Implementation is to be by SDHES Environmental Services Bureau personnel, but is dependent upon attainment of Sub-Objective 1.a.

Sub-Objective c: To promote and encourage improvement of return flow systems of existing irrigation systems (on-going effort).

Implementation: Implementation of this sub-objective must necessarily involve a broad spectrum of federal and State governmental agency personnel including SDHES, Department of Natural Resources and Conservation, State Universities, Department of Agriculture, Department of Interior, etc.

OBJECTIVE 3: To develop educational efforts directed at informing urban, suburban, and agricultural users of pesticides of the need for safe, proper methods for handling, storing, using and disposing of pesticides, and of alternative methods of controlling pests.

Sub-Objective a: To develop informational pamphlets directed at the urban and at the suburban resident; a complete program, with graphic and visual aids and recommended educational procedure, that could be used by local officials in a detailed, planned education effort by July 1, 1976. This type of program should be conducted by five local health departments in conjunction with local extension agents by July 1, 1977.

Implementation: Implementation is to be by SDHES Environmental Services Bureau personnel, in conjunction with personnel of the SDHES Health Education Bureau who should develop the materials described and by local health department and county agent personnel who should organize, promote and hold the sessions. The Pesticide Division of the State Department of Agriculture, as well as the Regional EPA Office, should assist in both development of materials and conduction of the training and educational sessions. Ideal time for provision of such efforts would be early spring when they could be tied in with lawn, flower and garden growing techniques. Natural and biological methods of control should be stressed.

Sub-Objective b: To provide four training sessions for health professionals on the provision of consumer education (as referred to in the last sub-objective) and on the diagnosis and treatment of pesticide poisoning by December 31, 1976.

Implementation: Implementation is to be by SDHES Environmental Services Bureau personnel who should develop the programs and by local health personnel who should assist in the arranging and promoting of the sessions.

OBJECTIVE 4: *To develop an effective surveillance and control program to insure protection of human health and of the air, water, food, and land from damaging pesticide contamination.*

Sub-Objective a: *To implement a biannual meeting arrangement among State agencies involved in pesticide regulation by December 31, 1974.*

Implementation: Implementation is to be by the Pesticide Division personnel of the State Department of Agriculture who should propose and arrange such meetings and by the other control agencies who should cooperate and participate in these meetings.

Sub-Objective b: *To study and to identify the roles of the various control agencies in responding to pesticide emergencies by July 1, 1975.*

Implementation: Implementation is to be by Division of Pesticide personnel of the State Department of Agriculture who should conduct the original study and plan and by other control agencies who through participation in the communications sessions referred to in Sub-Objective 4.a. should provide input for revision and development of a plan acceptable to those involved and capable of effective action.

Sub-Objective c: *To develop and implement a cooperative effort of the SDHES and State Dept. of Agriculture in increased surveillance of persons involved in pesticide application by July 1, 1975.*

Implementation: Implementation is to be by a cooperative effort among personnel of both affected agencies.

Sub-Objective d: *To develop the capability (including plan development, federal delegation of authority, regulations, manpower and budget) to take over and implement provisions of the recently passed Federal Pesticide Control Legislation by December 31, 1977.*

Implementation: Implementation is to be by State Department of Agriculture, Pesticide Division personnel who should plan and identify needs for effective capability and justify their proposal to the legislature. Assistance should be provided by environmental, health and agricultural associations and interest groups and individuals who should provide support for the legislative proposal.

ENVIRONMENTAL HEALTH ELEMENT: SHELTER QUALITY
SUB-ELEMENT: LAND USE

1975
POLICY
STATEMENT

The Environmental Quality Council is presently developing a land use policy statement for provision to the 1975 Legislative Session. Input from environmental health officials should be provided in order that adequate and proper attention is given to environmental health concerns such as the qualities of air, water, and housing as they are related to noise, congestion, vectors, solid waste, and general neighborhood environment.

Full and serious attention by the Governor and the 1975 Legislature should be given the EQC's land use policy report; and positive action should be taken if the improvement of Montana's economic, social, and environmental goals can be attained through proposed land use control policies.

The Department of Natural Resources and Conservation-developed resource inventory method of land use planning is more comprehensive and consistent than other methods used and gives adequate consideration to major environmental health concerns.

OBJECTIVE 1: To implement a land use control policy and program in the state of Montana that gives adequate attention to environmental health concerns.

Sub-Objective a: To obtain environmental health input in the development of the land use policy study presently being conducted by the EQC.

Implementation: Implementation is to be by the EQC personnel conducting the study who should actively seek input from environmental health experts and from SDH&ES Environmental Sciences Division Bureau chiefs and staff who should actively seek to provide the necessary input.

Sub-Objective b: To insure that the Governor and the 1975 Legislature give full and serious attention to the results of the EQC's land use policy study and that both those components of government understand that the effective application of land use controls can have beneficial effects on health through control of environmental health stresses.

Implementation: Implementation is to be by EQC, SDH&ES, Department of Natural Resources and Conservation personnel, health interest groups and associations, and by concerned citizens who should press their political officials for affirmative action in the attainment of this sub-objective.

Sub-Objective c: To support the application of the Department of Natural Resources and Conservation-developed resource inventory method of land use planning at both state and local levels by July 1, 1975. The provision of adequate funding to allow DNR&C the resources to promote their resource inventory method of land use planning to local officials through provision of training sessions would do much to allow accomplishment of this sub-objective and should be undertaken. Cooperation in provision of the training sessions should be provided by the Montana Association of Counties.

Implementation: Implementation is to be by DNR&C personnel, environmental health personnel, and local citizens and officials.

ENVIRONMENTAL HEALTH ELEMENT: AIR QUALITY

PREVENTION APPROACH

Air quality surveillance is accomplished through a network of sampling stations maintained by the State Air Quality Bureau and by three local control offices in the counties of Yellowstone, Missoula, and Cascade. Problem areas have been defined and studied with respect to emission sources and control strategies. The approach to air pollution control in Montana has been one of preventing significant deterioration in the generally good quality of our air resource. This has been accomplished by requiring that controls to the most advanced state-of-the-art be applied, even where existing air quality is well within federally established standards.

Montana should continue to pursue this approach and should make every effort to obtain federal level backing of the "no significant deterioration of air in high quality air regions" approach. Recently proposed amendments to the federal Clean Air Act suggest dropping this concept, and these should be opposed by State officials and citizens.

Continuation of this non-degradation policy requires support by the State Board of Health through regulation revision (in order to remain consistent with the most advanced state-of-the-art in air pollution control) and through provision of a firm stance in application of the various laws, rules and regulations.

An operating permit system should be investigated and incorporated into the regulations in order to maintain better control over sources after they are constructed. As with most mechanical devices, the proper operation and maintenance of various air pollution sources and controls is of utmost importance to their proper functioning.

As the SDHES Air Quality Bureau moves to a maintenance level program in the next few years, more time and manpower should be made available to functions such as new source review (including environmental impact statement preparation), existing source surveillance (including expanded source testing capability), and special studies type activities to investigate problem areas and to develop plans of action addressing them (for example, slash burning, right-of-way burning, agricultural and municipal dust suppression, and natural resource development with associated air quality threats).

PUBLIC INFORMATION AND EDUCATION

An on-going effort is needed to provide information and education to the public on the need for air pollution control to maintain a high quality air in the State. Due to manpower shortages and commitments to other aspects of the programs, public education has not received adequate attention from environmental health personnel at either the State or local level.

PROVISION OF SERVICES

Attainment of Sub-Objective 1.c. in the State and Local Government Section of this report would place responsibility for information, public relations, and education on a health educator within the Air Quality Bureau. This person, through the development of audio-visual and educational aids, could enlist the support of local health educators and sanitarians in the attainment of this objective.

Enforcement-oriented agencies will find it difficult to obtain adequate budgets for their efforts unless an informed and vocal citizenry is convinced of the need for their services, and is willing to express their opinions to decision makers. Thus public education on the need to protect and preserve air quality should be a part of the SDHES Air Quality Bureau's activities.

LOCAL EFFORTS

Open burning dumps still present an air pollution problem, especially in small communities and counties. Cooperation with the Solid Waste Bureau, especially in the enforcement aspect of this situation, is needed to phase out this type of air pollution source. Local health agencies and sanitarians should play a role in correction of this problem.

The SDHES Air Quality Bureau should further investigate other areas in which greater local control could effectively improve air pollution control efforts. This responsibility should be assigned to an individual within the SDHES Air Quality Bureau, who should work with local agencies (and with an SDHES Local Services Bureau if created as suggested in Sub-Objective 1.c. of the Provision of Services: State and Local Government Section of this report) in the development of expertise, regulations, etc. allowing local efforts in areas such as initial complaint investigation, municipal dust suppression methods, incinerator and other minor source surveillance and control, air quality monitoring site selection and servicing, and open burning control.

EPA is now requiring states to consider indirect source control in their State Implementation Plans for the control of air pollution. Planning is needed to develop this type of control strategy, and should be followed through with regulation provision, financial resources development, and policy and procedure development within the State Bureau.

Study of the feasibility of regional offices should be undertaken. However, this point has been addressed in the Provision of Services: State and Local Government Section of this report and will not be considered further here.

OBJECTIVE 1: To prevent, control, and abate air pollution through a comprehensive program of surveillance and problem identification, source emission improvement, plan development for reducing the impact of major indirect sources, and enforcement of effective laws, rules and regulations.

Sub-Objective a: To take every necessary action to negate federal administration amendment proposals to the Clean Air Act that reject non-degradation of high quality air as a function of EPA by December 31, 1974.

Implementation: Implementation is to be by health and environmental officials at all levels, by individual citizens and groups, associations, etc.

Sub-Objective b: To undertake and complete revisions of air quality regulations in order to keep up with the state-of-the-art in air pollution control technology. This sub-objective will be an on-going process throughout this planning period.

Implementation: Implementation is to be by SDHES Air Quality Bureau personnel who should study and develop the proposed changes and by the State Board of Health who must adopt the regulation revisions.

Sub-Objective c: To demonstrate in up-coming hearings and judicial proceedings against the non-ferrous smelters, a firm stance in support of the best practicable treatment philosophy for control of air pollution. This sub-objective will be an on-going process throughout this planning period.

Implementation: Implementation is to be by the State Board of Health although health and environmental groups and associations, as well as individual citizens, should provide the Board with their opinions urging their backing of the Department on this issue.

Sub-Objective d: To develop and implement an operating permit system as an aid in the control of air pollution sources by July 1, 1975.

Implementation: Implementation is to be by SDHES Air Quality Bureau personnel who should develop the proposals and by the State Board of Health who must approve incorporation of such an effort into the applicable regulations.

Sub-Objective e: To implement and have in full operation the provisions of the aforementioned operating permit system by December 31, 1977.

Implementation: Implementation is to be by SDHES Air Quality Bureau personnel with assistance from local air pollution control programs and health agencies as applicable.

Sub-Objective f: To provide the SDHES Air Quality Bureau with sufficient budget, manpower, equipment, and auxiliary services to effectively administer a maintenance level control effort including at least the following aspects by July 1, 1975:

- 1) *new source review (including environmental impact statement development)*
- 2) *existing source surveillance (including expanded source testing capability)*
- 3) *special studies and control plan development (for problems such as slash burning, right-of way burning, agricultural and municipal dust suppression, and natural resources development and energy generation source control, both direct and indirect).*

Implementation: Implementation is to be by SDHES administrative and Air Quality Bureau personnel who should develop the plans for such a program, outlining and justifying the necessary increases in expenditures (including the need to pick up reductions in federal participation). The proposal should receive the support of health and environmental interest groups and associations, CHP, and private citizens.

Sub-Objective g: To investigate the various means by which a coordinated state-local effort could be utilized for more effective air pollution control efforts by July 1, 1976.

Implementation: Implementation is to be by SDHES Air Quality Bureau personnel.

Sub-Objective h: To implement a cooperative state-local control effort such as described above in four local health agencies by July 1, 1977.

Implementation: Implementation is to be by SDHES Air Quality Bureau personnel and the officials of the affected local municipalities.

Sub-Objective i: To cooperate in an enforcement proceeding against an open-burning open dump with the SDHES Solid Waste Bureau as called for in Sub-Objective 1.b. of the Solid Waste Section of this report by December 31, 1974.

Implementation: Implementation is to be by SDHES Air Quality Bureau personnel.

Sub-Objective j: To develop and implement a plan for the control and regulation of indirect sources of air pollution and to have approval of the plan by EPA by December 31, 1974.

Implementation: Implementation is to be by SDHES Air Quality Bureau personnel.

OBJECTIVE 2: To provide an effective education, information and public relations effort relating to air pollution, its sources, effects and control.

Sub-Objective a: To develop effective training and education programs with graphic and visual aids and recommended implementation methods by December 31, 1975.

Implementation: Implementation is to be by SDHES Air Quality Bureau personnel who should develop the materials and methods.

Sub-Objective b: To enlist the support and assistance of local health educators and sanitarians in the provision of this educational effort by December 31, 1975.

Implementation: Implementation is to be by SDHES Air Quality Bureau personnel and by local health and environmental educators who should cooperate to provide the general public with this education.

ENVIRONMENTAL HEALTH ELEMENT:
FOOD PROTECTION AND NUTRITION

The purpose of a food protection program should be to assure the people of Montana wholesome clean food free from unsafe chemical or microbiological contamination, filth, and natural or added deleterious substances. A nutrition program should aim to improve the health of the people of Montana by providing information, education and services in the area of nutrition.

FOOD PROTECTION AND
GOVERNMENT

The complexity of the food delivery system defies complete control at any one level of government. The federal government must continue to coordinate and supervise control efforts involving interstate commerce. The states must continue to provide leadership in the control of producers, processors, manufacturers, transporters, warehousemen, and service establishments in their jurisdictions. Local government can provide the most efficient and effective services in most of these control efforts.

MONTANA
RESPONSIBILITIES

A revision of the regulations covering the various aspects of food control in Montana is needed. Enforcement procedures in particular are in need of review and improvement, as are aspects of the regulations pertaining to processors, manufacturers, transporters, and warehousemen.

State surveys of local programs should be routinely conducted in order to evaluate conditions and control efforts. The surveys would also serve to develop uniformity in regulation interpretation and inspection, and to delineate areas of principal deficiency and provide guidance for effecting needed improvement.

Additional manpower at the state level is needed to provide additional consultation and supervisory service to local programs. The additional manpower are also needed to work on regulation revision, and to provide actual surveillance and enforcement efforts to establishments not under local control.

The Food and Drug Act should remain at the state level in implementation due to need for close coordination and cooperation with federal FDA officials. A Food Control Unit could supervise and coordinate efforts in regulation of foods and drugs, processors, manufacturers, warehousemen, transporters, and food service establishments.

EDUCATION
ON FOOD
PROTECTION

Education has been the principal method by which compliance with food control regulations and laws has been obtained in the past, and will probably continue to play that role in the future. There is, however, much room for improvement among these efforts.

Professional sanitarians in Montana are in general a young and rather inexperienced group. Provision of an internship program for one year (as proposed in the Provision of Services: State and Local Government section of this report) would do much to improve upon this situation, as would provision of a local Health Services Bureau. (Also discussed in the aforementioned section.) In addition, however, qualified sanitarian consultants at the state level with the time to provide consultation and training to the local level sanitarian is needed.

The state personnel should also provide the leadership in the development of effective training materials and methods for the education of the personnel within the food industry and of the general public. If the public could be educated to improve reporting of foodborne illnesses, a more meaningful evaluation of food control efforts would be possible. Consumer complaints are also the mechanism that is used to initiate corrections or compliance with processed or manufactured foods both within and outside the state.

OBJECTIVE 1: To provide a comprehensive food sanitation control effort in the State of Montana.

Sub-Objective a: To conduct the necessary study and to revise the regulations pertaining to food control in order to make them comprehensive, effective, and readily enforceable by July 1, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Environmental Services Bureau who should study and recommend changes to the proper authority.

Sub-Objective b: To provide an additional four-state sanitarian consultant to the Environmental Services Bureau and to provide proper funding for this food control unit to this Bureau by July 1, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Environmental Services Bureau who should plan and justify the additional manpower and budget services necessary and by health interest organizations, civic groups and CHP to provide support in legislative sessions for approval of the proposal.

Sub-Objective c: To conduct routine surveys of local food control efforts by December 31, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Environmental Services Bureau personnel, but is dependent upon the attainment of Sub-objective b.

Sub-Objective d: To review current efforts of other states in the nation in food service manager training and certification, and to evaluate the effectiveness of such efforts in upgrading food control efforts in Montana by July 1, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Environmental Services Bureau personnel.

OBJECTIVE 2: To provide education and information programs to professional sanitarians, to the personnel of the food industry, and to the general public for the more effective and efficient control of food.

Sub-Objective a: To provide a model training and education program for food industry personnel by July 1, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Environmental Services Bureau personnel who should receive assistance from local officials; the State Department of Health and Environmental Sciences, Health Education Bureau; and the Montana Environmental Health Association.

Sub-Objective b: To develop a program for public education involving graphic and visual aids and recommended methods, and demonstrating the health problems associated with foods and identifying the Health Department as the lead agency for reporting illness and complaints.

Implementation: Implementation is to be same as above.

Sub-Objective c: To provide in-service training programs pertaining to food sanitation control to local sanitarians by July 1, 1975.

Implementation: Implementation is to be by State Department of Health and Environmental Sciences, Environmental Services Bureau personnel.

As government at all levels is responsible for an ever-increasing proportion of health expenditures and as these expenditures mount without an appreciable effect on the health statistics of the nation and Montana, it is becoming obvious that emphasis must be shifted from curative to preventive and rehabilitative approaches to health. This means that nutrition should assume even more importance than in the past.

Nutrition is a critical factor in the promotion of health and prevention of disease as well as in recovery and rehabilitation from illness or injury. National evidence indicates that individuals who fail to attain a diet optimal for health can be found at every socioeconomic level. The reasons are many and complex. The impact on health is seen in the increased risk of complications of pregnancy in the poorly-nourished woman; in the chance that her infant may be of low birth weight with accompanying risk of retarded physical and mental development; in the high incidence of overweight and underweight in school-age children and in adults; in the debilitation of the malnourished elderly; in dental disease, widespread in the total population; and in the high incidence of chronic illnesses that require dietary treatment, monitoring, and follow-up. It is apparent that improvements in the nutrition of people will have a direct effect on the level of health and the resulting need for health services.

Nutrition services should be a component of all health and health-related programs and should be designed to reach the total population with priority given to such nutritionally vulnerable groups as infants, children and youth in the growing years, women in the child-bearing years, and the older age population.

The inclusion of nutrition as a component of health care will influence the number of people requiring sick care service. The promotion of good nutrition practices, along with other healthful practices, can be an important part of the strategy to relieve the strain on an overworked health care delivery system, to decrease the escalating rate of health care costs and to maximize peoples' physical, mental, and social well-being so that they may achieve and maintain productive and independent lives.

Nutrition should be an essential component in the formulation of health policies and programs at the State and local levels.

Some preliminary steps are necessary if Montana is to launch an effective nutrition program. To date, very little research has been conducted to determine nutritional care guidelines for any particular population group in Montana. Other states, including Arizona, are developing such guidelines as part of nutritional plans, and much valuable information concerning the development of guidelines can be procured from the American Dietetic Association and from nutrition studies. Using these as a basis, Montana should establish nutritional care standards which meet the requirements of different population groups in the State.

Furthermore, before program planning of nutritional services can begin, Montana must have some indication of the nature and extent of nutritional problems which affect the State's population. No complete study of the nutritional status of the State's population has ever been

conducted. Scattered data do exist on nutrition for particular population groups. If these data were assembled and analyzed, they would provide a basis for the assessment of problems. Such information would be of particular value in determining nutritional services program priorities.

After completing these tasks, Montana will be ready to design a realistic plan for nutrition care services. Then, to implement the plan additional resources devoted to nutritional efforts would be required.

OBJECTIVE 1: *To develop guidelines for nutritional care in Montana by January, 1977.*

Sub-Objective a: To establish through the Nutrition Unit of the State Department of Health and Environmental Sciences guidelines for nutritional care for Montana citizens.

Implementation: The State Department of Health and Environmental Sciences' Nutrition Unit should involve the Montana State Nutrition Committee*, consisting of all agencies and organizations having a responsibility for nutrition, for the purpose of providing additional support, coordination and cooperation in the development of guidelines for nutritional care for Montanans.

The State Department of Health and Environmental Sciences' Nutrition Unit will collect nutritional guidelines from all states and other sources having such guidelines by July, 1975. After a complete survey and analysis of existing nutritional guidelines, the State Department of Health and Environmental Sciences' Nutrition Unit shall draw up a tentative outline of the Montana Nutrition Guidelines by January, 1976, and submit it to the Montana State Nutrition Committee for review and comment.

The Nutrition Unit will prepare the first draft of the guidelines and submit them to various health organizations having a direct responsibility for nutrition care for additional review and comment. The Nutrition Unit will finalize the guidelines and provide for publication and dissemination of the guidelines to all related components of the health care delivery system.

*The Montana State Nutrition Committee has been in existence for several years. The passage of the Montana Enrichment Law was the first major contribution of this group. The Committee is currently setting bylaws and reviewing their membership to determine the spectrum of interests represented. The Committee meets quarterly.

OBJECTIVE 2: To investigate the magnitude of nutritional problems in Montana for the purpose of identifying program priority nutritional problems by January, 1976.

Sub-Objective a: To identify, through analysis of existing data statistics and nutrition information, the nutritional status of the State's population with particular emphasis on the identification of nutritional problems.

Implementation: The State Department of Health and Environmental Sciences will need to provide, possibly through a grant by the Mountain States Regional Medical Program, funding for one year to hire one nutrition program planner by January, 1975. This planner would be responsible for examining existing State health statistics and the review of other appropriate nutritional information. In addition, the planner would investigate the possibility of funding to support supplementary nutritional surveys identified as needed. Also, the planner would be responsible for developing a model for the delivery of nutritional services.

OBJECTIVE 3: To provide the necessary resources to initiate program plans for the delivery of nutrition services based on the model developed by the State Department of Health and Environmental Sciences' Nutrition Unit by January, 1976.

Sub-Objective a: To initiate a demonstration project for the delivery of nutrition services based on the model.

Implementation: Once nutrition care problems have been identified and program plans for the delivery of nutrition care services have been designed, the State Department of Health and Environmental Sciences will need the resources for implementation of these plans. Of necessity, the implementation which will follow the model established by the Nutrition Unit would begin on a small scale and at the county or Governor's planning district level.

Close coordination between and among State agencies and other organizations having a nutrition component will be paramount, particularly in view of the definite lack of manpower to provide for the delivery of nutrition care services. Existing programs such as the Expanded Food and Nutrition Education Program should supply valuable input.

The Nutrition Unit will seek funding to begin implementation of the delivery of nutritional care services in one area at either the county or Governor's planning district level. Possible funding sources might include the State Department of Health and Environmental Sciences biennial budget appropriations, the Mountain States Regional Medical Program grants, or federal funds through the Department of Health, Education and Welfare.

INDIAN HEALTH CARE

For several important reasons it was thought appropriate to include a separate chapter on Indian Health Care in the State Plan for Health.

- 1) A different health delivery system, financed and operated by the federal government, is provided for Montana's reservation Indian population.
- 2) There is a lack of knowledge among most Montanans, except those providing or using the services, about how the Indian Health Service operates.
- 3) There is increasing interest in jurisdictional considerations and relative responsibilities of local, state and federal governments in regard to Indian health care.

Because these concerns require an informational and educational approach, this chapter does not lend itself to the format followed in the other sections of the Plan. This chapter contains a general description of the seven Montana reservations, a description of the health system on each of the reservations*, and a section on Montana's non-reservation Indian population and health.

Future editions of the State Plan for Health will have a section on reservation Indians and health presented in a format similar to the section on non-reservation Indians at the end of this chapter. This would be useful for the tribes, the Indian Health Service, the State, and all others having an interest in and responsibility for health services for Indians in Montana.

Before presenting the descriptive material concerning each reservation, a few words are in order about the function of the "area office" of the Indian Health Service. The area office is the administrative and technical center for the health programs on the seven Montana reservations, one Wyoming reservation, and the Indian school health center in Brigham City, Utah. Located in Billings, the area office is the liaison between the reservation health programs and the National Indian Health Service in Rockville, Maryland. The major objective of the area office system is the provision of support services to the local health programs to improve efficiency. The major support services provided by the area office are financial management, personnel management, computer statistical services and evaluation, tribal development, and medical care coordination. This method of centralizing many support services greatly decreases the costs that are encountered by health programs.

The major problems encountered by the Indian Health Service relate to dependence on federal appropriations and required adherence to federal

*Much of the descriptive material concerning the reservations and the health system operating on them is excerpted from the Service Unit Profiles from each reservation. The IHS "service unit" is somewhat synonymous with "service area" or "catchment area" and is used to describe the total reservation health services program provided by the Indian Health Service.

guidelines which hamper needed flexibility. However, this regionalized health delivery system with support services from a central office can provide more comprehensive services to a population at less cost than traditional health delivery mechanisms.

BLACKFEET

THE RESERVATION

The Blackfeet Reservation is located in North Central Montana and occupies an area of about 1,500,000 acres. Most of the reservation is in Glacier County with a small part in Pondera County. It is bounded on the west by Glacier National Park, on the south by Birch Creek, on the east by Birch and Cut Bank Creeks, and on the north by Canada. The general topography is a rolling plain rising westward to the Continental Divide.

Browning is the seat of tribal government as well as the major trade center for the reservation. Cut Bank, the county seat of Glacier County, serves the eastern edge of the reservation. Great Falls is the nearest major shopping center. Kalispell, 100 miles to the west, and Havre, 160 miles to the east, serve the reservation to a lesser extent. Cardston, Alberta, Canada, 15 miles north of the reservation, serves the northwestern part. The principal villages and settlements on the reservation besides Browning are: East Glacier Park, St. Mary's, Babb, Blackfoot, Starr School and Heart Butte.

The legislative body for tribal affairs, under the Blackfeet Tribal Constitution is the Tribal Business Council, a body of elected officers. Among the powers of this council are: management of tribal property in land and money; the preservation of reservation wildlife; the regulation of law and order on the reservation (except for certain major crimes); and the encouragement of Indian arts and crafts, culture and tradition.

THE PEOPLE

There are approximately 10,800 enrolled members of the Blackfeet Tribe. Of these there is an estimated 6,000 Indians living on the reservation, approximately one-half live in Browning. The population on the reservation is increasing somewhat due to new employment opportunities.

Most of the Blackfeet now speak, read, and write English. A portion of the older fullbloods still speak only their native tongue. Most can sign their names. A considerable proportion of adult Indians speak both Blackfeet and English, although many of the young Indians have great difficulty with the Blackfeet language. Some of the older Indians are able to converse with Indians of other tribes in the traditional sign language of the plains.

The great majority of the Indians on the Blackfeet Reservation belong to the Catholic Church. A Methodist Church is also maintained by the Home Mission Board, and a few Blackfeet have identified themselves with other denominations. On the three Canadian Blackfeet Reserves membership is about equally divided between Anglicans and Catholics.

Ninety percent of the reservation homes have electricity. Natural gas is available to most residents of Browning and East Glacier. Telephone service is available in each community and approximately twenty percent of the reservation homes have a telephone.

Approximately 2,152 Indian children were in attendance in public schools on the reservation during school year 1973-1974. Blackfeet Indians represent over ninety percent of the total school population. Most children residing on the Blackfeet Reservation attend public schools located in Browning, Starr,

Babb, Cut Bank, Valier and East Glacier and Heart Butte communities. A public school dormitory for Blackfeet children operated by the Bureau of Indian Affairs, with a rated capacity of 160 pupils, is located on the reservation. Elementary students comprise over ninety percent of the total dormitory enrollment. Some Indian children living on the Indian Reservation attend schools in Cut Bank and Valier, Montana. These students receive certain services from the BIA and the Indian Health Service even though they do not attend school on the reservation.

Indian students who cannot adjust to their environment, who live in isolated areas, or whose educational needs cannot be met in public schools locally, are placed in off-reservation schools in Chilocco, Ft. Sill or Riverside, Oklahoma; Wahpeton, North Dakota; Flandreau, South Dakota or Busby, Montana.

THE ECONOMIC SYSTEM

The Blackfeet have made much progress in agriculture during recent years. Today, almost half of the families receive some agriculture income. Most of the Indian-operated farms and ranches are too small to provide complete family support so agricultural incomes are frequently supplemented by seasonal wage work or other types of income. Much of the land is leased to white ranchers or farmers.

Income of the Indians could be increased by further expansion of Indian agricultural operations. Income-producing natural resources other than farming and ranching include logging, a sawmill, writing instruments plant, cut-stock plant, componentized housing plant and oil production.

THE HEALTH SYSTEM

The Indian Health Service maintains a 34-bed hospital in Browning and also provides out-patient services in their clinics at Heart Butte and Babb. The Heart Butte Clinic is located on the school grounds in the small village of Heart Butte, 35 miles southwest of Browning. The adequate clinic building contains a waiting room, a record room, two physician examining rooms, a small laboratory workroom, lavatories and storeroom in the basement.

Babb Community Clinic is 45 miles north of Browning. This clinic is important to the people of Babb because of the hazardous driving conditions between Browning and Babb during the winter months. The clinic is housed in an old teacherage with an entrance room, one waiting room, an examination room, and a large bathroom which also serves as a storage room.

The Indian Health Service also contracts with other hospitals, clinics, and physicians for additional services to its Indian patients. The main referral hospitals are the Deaconess and Columbus Hospitals in Great Falls, the Kalispell General Hospital in Kalispell, Montana, and the University of Washington Hospital and the Public Health Service Hospital in Seattle, Wash.

Five physicians and three dentists provide services to the in-patient program, the two field clinics and the hospital out-patient department. These health personnel have been assigned for a two-year period from the Commissioned Corps program. Some of the staff have had some residency training in various programs such as internal medicine and surgery. Additional medical staff who have privileges at the hospital are volunteer physicians and consultants. During the summer of 1972, there were ten volunteer physicians who came from such states as California, Tennessee, New Jersey, Ohio, Washington, and Texas. Some of their specialties were

internal medicine, surgery, and general practice. Consultants coming to the hospital are orthopedist, radiologist, internist, obstetrician-gynecologist, surgeon, otolaryngologist, ophthalmologist, and pathologist.

The hospital had an average daily census of 20.3 in fiscal year 1972 for adult and pediatric patients. The newborn average daily patient load was 1.2, with 127 admissions. There are sixteen medical-surgical beds, fourteen pediatric beds and four obstetrical beds with six bassinets for newborns.

Elective surgery is done approximately once a month. Usually this is done under contract by a general surgeon or gynecologist from Kalispell. Other special surgeries are done by physicians under the ENT program and the ophthalmologist from the U.S. Public Health Service Hospital in Seattle.

The nursing staff consists of twenty-five people--twelve registered professional nurses, six licensed practical nurses, and seven nursing assistants.

Dental treatment is provided to all Indians in the dental clinic. The dental staff consists of three dentists and five dental assistants. Its goal is to examine and treat all the children on the reservation and to treat as many adults as possible when appointments do not conflict with the school program. Money has been allocated to contract some dental treatment out to private practitioners. People living in or near the communities of Cut Bank and Babb are provided dental services by contract dentists. In addition, students away at college are eligible for contract services on a first-come basis until funds are exhausted.

The Blackfeet Tribe as well as every other tribe in the Billings Area Indian Health Service employs Community Health Representatives (CHR). The CHR program is a health outreach, health education and social service effort that employs tribal members with the intent of improving the health and welfare of the tribe. The success of tribal CHR programs has led to their almost yearly expansion and in many cases tribal councils look to the Community Health Representatives for advice on health-related matters.

In addition, the Blackfeet Tribe has recently completed construction of a nursing home in Browning.

FORT BELKNAP

THE RESERVATION

The Fort Belknap Reservation encompasses 1,200 square miles in Blaine and Phillips Counties of North Central Montana. It is shared by members of the Gros Ventres (pronounced Gro Von) and Assiniboiné Tribes.

The Assiniboiné Tribe is a detachment from a fragment of the Yanktonai Sioux Tribe. Their early habitat was in the Rainy Lake and Lake of the Woods in northern Minnesota. In search of food, they moved westward in the late 1600's and early 1700's and settled in the Saskatchewan-Montana area. To facilitate hunting for food, the tribe broke into two bands. When the government granted rations to the Indians and established reservations, the band of Assiniboiné that **received** rations at the Milk and Missouri Rivers were enrolled at the Fort Peck Reservation and the Assiniboiné who received rations at the Fort Belknap Agency were enrolled at the Fort Belknap Reservation. There were approximately eight to ten thousand Assiniboiné in 1836 but epidemics and wars reduced their numbers to 2,400 by 1880.

The Gros Ventre Tribe at Fort Belknap is a fragment of the Arapahoe Tribe. A treaty of October 17, 1855, granted hunting grounds for the Blackfeet, Crow, Blood, Piegan, Gros Ventres, and Assiniboiné Tribes which was roughly the territory from the Yellowstone River north to the United States-Canadian border and from the Rocky Mountains in western Montana to the junction of the Yellowstone and Missouri Rivers.

THE PEOPLE

There are approximately 2,000 enrolled members of the two tribes living on the reservation. Fort Belknap Agency, located five miles south of Harlem on U.S. Highway 2, is the seat of tribal government on the reservation. At the present time, it is largely a "government" community but as more tribal housing units are built in the area, its composition will change. At present, there are 125 Indian families living at the agency. The Milk River Valley Community is also located in the northern sector of the reservation. It extends eastward from the agency to the reservation boundary near Dodson, Montana, and is home for 38 families.

Hays Community is located on the western side of the Little Rocky Mountains, 35 miles from the agency in the southern sector of the reservation. It is composed of a small non-Indian owned townsite of 43 Indian-occupied homes surrounded by a rural area of about 58 homes, all widely dispersed. Lodgepole Community, situated about 10 miles east of Hays on the eastern side of the Little Rocky Mountains, is home for 69 families. Beaver Creek, a community of about 15 Indian families, is located 10 miles southeast of Lodgepole.

From the description of the communities, it is evident that approximately three-fourths of the population lives in the southern sector of the reservation.

Electric power is available to the majority of the reservation homes and about eighty percent of the homes have it. Telephone communication is available to only the inhabitants of the principal settlements on the reservation. Recent Bureau of Indian Affairs' figures show that of the total 397 housing units on the reservation, 265 or sixty-seven percent, are in standard

condition and 132 are in sub-standard condition. Of the 132 in the sub-standard condition, eighty-eight percent, or 116 homes, were classified as needing replacing and only sixteen needed remodeling.

THE ECONOMIC SYSTEM

The Fort Belknap Reservation is basically rural and agricultural in nature. About seventy-one percent of the land within the reservation is held in trust status for the Indians. Of this amount, one-fourth is in tribal trust status and about three-fourths is in allotted trust status. A special problem which exists with most of the allotted land is multiple ownership. Over half of the allotted land is owned by two or more persons, which presents problems in wise use of the land, difficulty in administration, difficulties in leasing and/or selling the property. Most of the Indian-owned dryland is used for ranching purposes, but in the last ten years there has been an effort to create dryland wheat farms.

Agriculture cannot support all the needs and wants of all the persons on the reservation even if all the potentials of production are utilized to their fullest extent.

The Tribal Council is trying to lure industry to the reservation but this is not an easy task. It can offer an adequate labor force, land, tax advantages, federal contracts, property security. These are not enough to compensate for the limited availability of raw materials, marketing costs, and isolated location.

Employment opportunities on and near the reservation are primarily in agriculture and generally seasonal. A few jobs are available locally with the Indian Health Service, the Bureau of Indian Affairs, and in the small surrounding communities. Some of the jobs are permanent, others are seasonal.

Most of the population lives in the Hays and Lodgepole Communities, and it is in these areas largely that they wish to live in the future. Economic opportunities are, at the present time, virtually nonexistent nearby. Such opportunities as do exist are at a minimum distance of 35 miles from the residential area. It is probable that this situation tends to discourage residents from seeking employment except intermittently and seasonally. Those who become employed either spend a considerable portion of their earnings in transportation, or are away from homes for extended periods of time. Isolation and segregation resulting from the present pattern of living may serve as deterrents to optimum economic advancement of the people of the community. Approximately twenty percent of the male population between twenty and sixty-five are unemployed during most of the year and their unemployment may rise to eighty percent during the winter.

THE HEALTH SYSTEM

The Indian Health Service operates a 22-bed hospital at the Fort Belknap Agency. Both out-patient and in-patient services, as well as dental care are provided. It also operates an out-patient clinic at Hays two days per week.

Special medical problems are referred to physicians and hospitals in Havre, Billings and Great Falls, Montana, and Seattle, Washington.

There is also a Community Health Service's staff at the hospital consisting of public health nurses and a sanitarian technician. The social

worker stationed at the Rocky Boy's Health Center also provides social services on the Fort Belknap Reservation.

The nearest private physician is 25 miles from the agency and 65 miles from Hays.

The dental program at Fort Belknap is set up to treat as many children between the ages of three and nineteen at Fort Belknap as possible. Treatment includes a thorough prophylaxis followed by a fluoride treatment and an oral examination.

THE
RESERVATION

The Crow Indian Reservation is located in Big Horn County of South Central Montana. The reservation is approximately 60 miles wide and 40 miles in length, encompassing 1,574,394 acres.

Under its constitution, the Crow Indian Tribe has a general council form of government in which every adult enrolled member is allowed to vote, if they are present during the meeting of the general council. This council has the authority to present, act, and speak for the tribe in any and all matters, and to promote the general welfare of the tribe and its members. The expenses of operating the tribal government and tribal programs are paid for out of income received for land leases, oil and gas royalties and bonuses, and interest on funds deposited with the U.S. Government.

Principal settlements are Lodge Grass, Wyola, Pryor, St. Xavier, and Crow Agency. Lodge Grass, Hardin, Billings, Montana and Sheridan, Wyoming, are principal trade centers. Wyola, on the southern end of the reservation and Pryor in the western portion are the most isolated communities. Most reservation residents consider Crow Agency the parent community since it is the industrial center and the location of federal agencies and tribal offices.

THE
PEOPLE

The bulk of the 4,580 reservation residents lives on the eastern side of the reservation, in the Little Big Horn River Valley, from Wyola to the outskirts of Hardin. From the 1960 to the 1970 Census, the on-reservation Crow Indian population had increased 16.2 percent. During the same ten-year period, the Montana Indian population increased 28.0 percent and the Montana non-Indian population increased 2.0 percent.

Electricity is available in all areas of the reservation from Big Horn Electrical Co-Op and/or Yellowstone Valley Electric Co-Op and/or Montana Power Company. About ninety-eight percent of the Indian homes have electricity. Mountain States Telephone and Telegraph Company serves the Crow Reservation, and telephone service is available to all towns and villages on the reservation.

No federal schools have operated on the Crow Reservation since 1920. In spite of attendance in public schools with non-Indians, relationships have been handicapped by the fact that many Crow children do not speak English when they enter school. There is an educational lag in school, doubtlessly associated with this language handicap, which also appears to be a factor in Indian students dropping out of school before completion of the eighth grade or high school. The number continuing through high school and beyond has increased in recent years. Of the adults on the Crow Reservation, fifty-nine percent have had close to ten years of education.

The drop-out rate is a very intangible element in school attendance. The Bureau of Indian Affairs Education Specialist believes that twelve percent, which is a percentage that has been used as an average, is a very conservative figure. He estimates that this is closer to twenty percent.

THE
ECONOMIC
SYSTEM

As of fiscal year 1972, there were reported 830 dwellings on the reservation. About one-fourth of the housing was sub-standard at that time.

Coal underlies approximately 330,000 acres within the eastern one-third of the Crow Reservation. The largest concentration of these coal reserves appears to be in the Wolf Mountains, which lie in the south central portion of the reservation.

The Crow Indians are primarily interested in livestock-oriented agricultural enterprise. Interim development of commercial and industrial activities offers many of the marginal operators a chance for employment as a supplement. Any development which creates employment, therefore, would assist many of the Indians who desire to develop their own resources and engage in management and operation pursuits.

The basis of Crow economy and income is his reservation land which he uses directly as a farmer or livestock operator and also as a landlord or lessee. Families generally own and control sizable acreages of land. Many of the Indian families have sold their allotments and some have realized sizable proceeds.

Occasionally, tribal funds derived from timber, grazing and mineral leases are distributed on a per capita basis; such payments are not outright payments of money to Indians by the government as some people believe.

The Crow Tribe recognizes the importance of bringing industry to the reservation. In 1967, the Crow Industrial Park at Crow Agency was completed. This park of sixty acres has blacktop streets, curbs, gutters, natural gas, water, sewer, electric power and a railroad siding. It is adjacent to Interstate 90, U.S. 212 and the Burlington Northern Railroad. Located in the park at the present time is the Big Horn Carpet Company, a building which has 53,000 square feet. This company manufactures tufted carpet from synthetics. Manufacturing began about May 15, 1968. At present, there are approximately 75 employees.

The location of the reservation and the fact it has an interstate highway, a U.S. highway, a State highway, a national battlefield of historical interest, and a national recreational area within its boundaries presents a great potential to the tribe in the field of commercial recreation.

More than half of the Crow families receive some income from wages during the year, but for most of them it is insufficient to permit a satisfactory level of living. Employment opportunities are largely in agriculture and are extremely limited during the winter months. The tribe has established an Industrial Development Commission to help establish more jobs on the reservation.

THE
HEALTH
SYSTEM

The Indian Health Service operates a 34-bed hospital at Crow Agency. There are twenty-six adult beds and eight pediatric beds. In the spring of 1966, an addition was completed to house the in-patient areas (medical-surgical, obstetrics, and pediatrics). The out-patient facilities were completely modernized during fiscal year 1969 to provide more adequate

treatment space. The hospital is staffed twenty-four hours a day, seven days a week. The average daily patient load at the hospital for fiscal year 1972 was 19.4. (There was an average of 117 adult and pediatric admissions a month.) Out-patient services are also provided at the Pryor Health Station.

In 1967, a Community Health Services department was organized as part of the Crow Service Unit program. Its main functions are health promotion, health maintenance and disease prevention in families, groups (school, Headstart, etc.) and communities. Within this department there are disciplines concerned with health education, environmental health, public health nursing, public nutrition, social services, dental services and community medical services. Community health services consist of the school program which involves patient screening, vision screening, audiological screening, PPD testing, immunization, and consultations with school personnel on the reservation.

The contract medical care program consists largely of emergency services which cannot be provided at IHS facilities. For the most part, these are performed in Billings. This program also includes medical care for the people living in the Pryor area at times when the clinic there is not staffed. The remainder of this program consists of medical services on an elective basis for things that cannot be done at IHS facilities. This is done on a priority basis determined by the availability of funds at that time. Alternate resources are exhausted prior to using contract funds when possible.

NORTHERN CHEYENNE

THE RESERVATION

The Northern Cheyenne Reservation is located within the boundaries of Rosebud and Big Horn Counties in southeastern Montana. The topography of the reservation varies from grass-covered low rolling hills to moderately high and steep hills and narrow valleys. Elevations on the reservation range from 3,000 feet to 5,000 feet above sea level. Much of the high elevation is covered by ponderosa pine timber.

THE PEOPLE

The Northern Cheyenne Indians originally dwelt near the Red River of the North. They met whites at an early date and were reported by the French as early as 1680. When Lewis and Clark met them in 1804, they were living on the plains near the Black Hills. They changed at about this time from an agricultural people to a typical plains tribe.

It is estimated that about ten percent of the people belong to the Native American Church with a great overlapping of these people into any one of the other religious cults. The rest of the population belongs to any one of the religious sects, with Catholic being among the greatest majority. Many of the people do not belong to any one religion, but do circulate from religion to religion. It would be hard to say if the reason is due to materialistic or spiritualistic values offered by any one religion.

It is estimated that there are anywhere from ten to fifteen Indian male "Spiritual Leaders" and two or three female "Spiritual Leaders" on the reservation. These men and women are mostly active during ceremonies held during the summer months, but are also active during any Indian celebration. The medicine given is mostly social and psychological, with hardly any chemical composition except Peyote, which is used in some of the ceremonies of the Native American Church.

Approximately sixty percent of the people speak Cheyenne and English. Thirty percent speak only English, knowing a few words in the Cheyenne language, and about ten percent speak Cheyenne, knowing a few words of English.

Lame Deer area (pop. approx. 1,450) is the seat of tribal government, the principal reservation trading center, and the most populated reservation community. Busby area (pop. approx. 500), 18 miles west of Lame Deer, is the second largest reservation community. Ashland Indian area (pop. approx. 176), 20 miles east of Lame Deer, is situated along the Tongue River which is the reservation's eastern boundary. People in this area generally shop in Ashland, Montana, which is just outside the reservation.

The projected Indian population in 1973 for the Northern Cheyenne is 2,572. It is estimated that approximately twenty percent of the Indian people live in rural areas.

Approximately ninety-five percent of the reservation homes have electrical service provided by local power companies. Coal, wood, oil, and L.P. gas are used as fuel for heating. Oil and L.P. gas are used in

the newer homes, while wood and coal are used in most of the older homes. The two larger communities on the reservation, Busby and Lame Deer, have community water and sewer systems operated by the Northern Cheyenne Utilities Commission. Educational facilities available to and attended by the Northern Cheyenne people are located in Lame Deer, Busby, Colstrip, and Ashland.

THE ECONOMIC SYSTEM

According to BIA statistics, the per-capita income (measurable resources) for the Northern Cheyenne Indian Tribe for FY 1972 was \$1,819. The current economy is based primarily on livestock. The unemployment level is high. However, this unemployment group is highly trainable into a skilled labor force for commercial, industrial or recreational work. Proof of this statement has been the ready adaptability of the Indians to three industries now located on the reservation.

Approximately 13,500 head of cattle currently are run on the reservation. Of these, 4,500 comprise a herd owned as a tribal enterprise. The reservation is comprised of 444,157 acres of land which is nearly all tribally owned. This land offers still more opportunities in the field of livestock development. There are three meat packing plants located in Billings so there is a ready market for cattle, sheep, and hogs.

Currently, there are 3,400 acres of land that could be irrigated. This much or more could be developed with improved farming and management practices. The land is suitable for vegetable and other specialty crop production. Approximately 5,340 acres of land is used for dryland farming operations. This land produces hay, wheat, oats, and barley.

The fact that the tribal members are easy to train into a skilled labor force has brought several industries to the reservation. The Guild Arts & Crafts Company is the largest employer with an average monthly employment of 150. The Black Lumber Company has recently started operation of a new sawmill in Lame Deer.

Extensive coal deposits of a sub-bituminous grade underlie all of the Northern Cheyenne Reservation. Total thickness of the formations exposed on the reservation is about 2,000 feet; within this zone there are probably ten significant coalbeds that vary in thickness from a few inches up to forty feet or more. A large strip coal mining operation is operating at Colstrip, Montana (20 miles north of the reservation). Coal reserves on the reservation are estimated to exceed five billion tons.

The reservation has a stand of ponderosa pine which allows for a sustained yield of 6 million board feet of lumber per year. The Tribal Council desires to increase the sustained cut to between 10 and 12 million board feet per year. The present stand of timber is estimated to be approximately 216 million board feet.

THE HEALTH SYSTEM

Most of the people of the reservation go to the PHS Indian Health Center in Lame Deer for their health needs. They are referred to the PHS Indian Hospital at Crow Agency for in-patient services, and to contract facilities, or state agencies, whenever necessary.

There are private physicians and private hospitals in Forsyth, 58 miles away, Hardin, 54 miles away, and Billings, 105 miles away.

Out-patient and special clinic services are provided by a staff consisting of two physicians, one registered nurse, one licensed practical nurse, one psychiatric nurse, one pharmacist, one dentist, two dental assistants, one medical records clerk, one medical and radiology technician, and one clerk-stenographer. The clinic building itself is divided into three floor levels. The top floor is occupied by the dental staff and psychiatric nurse, and is divided into a waiting room and classroom, dental supplies storeroom, three offices and the actual dental clinic with three dental chairs. The middle floor serves as the work area for the remainder of the general medical staff. It contains three examining rooms, one emergency room, nurse's workroom, a laboratory and x-ray department, pharmacy, health records, and a waiting room.

During fiscal year 1972, there were 18,843 out-patient visits at the Health Center. Dental services provided 1,497 examinations and a total of 6,317 services.

FLATHEAD

THE RESERVATION

The Flathead Reservation was established by the Treaty of 1855 at the Treaty Ground of Hellgate, in the Bitterroot Valley, for the Flathead Nation, consisting of the Confederated Salish and Kootenai Tribes, Upper Pend d'Orielle, and friendly tribes of Washington who wished to consolidate under the designation of the Flathead Nation.

The reservation includes parts of four counties--Flathead, Lake, Missoula and Sanders in northwestern Montana. Flathead Lake forms the greater share of the northern boundary while mountains surround it on the other sides: the Cabinet and Coeur d'Alene Mountains, elevations 5,000-6,000 ft., on the west and the Mission Range, elevations up to 10,000 ft., on the east. These two ranges angle toward each other to form the southern boundary. The total tribally-owned area within these confines is approximately 620,000 acres.

THE PEOPLE

There are approximately 3,808 enrolled members of the two tribes living on the reservation. Arlee was named after Chief Arlee (second chief of the Flathead Tribe) who, with his followers, moved to the new reservation in 1874. It is located 15 miles from St. Ignatius and its 160 Indian families gain a livelihood from ranching and working in lumber mills. Dixon, located in the south central section of the reservation, encompasses the area between Ravalli and Perma and the Moiese Valley to the north and is 12 miles from St. Ignatius. Fourteen families live at the old agency compound and thirty-five families live in the surrounding area on small ranches and farms. Elmo, located along the west shore of Flathead Lake in the north central section of the reservation, is the principal settlement of the Kootenai Indians residing in Montana. The community is 42 miles northwest of St. Ignatius and the forty-two Indian families gain a livelihood from lumbering, berry picking, and harvesting Christmas trees.

Hot Springs community (pop. 1,907) and town (pop. 664), located on the western edge of the reservation, is named for the thermal mineral springs in the area. Of the sixty-four Indian families living in the community, fifty-four of them live in the towns of Hot Springs and nearby Camas Hot Springs.

Polson (pop. 2,464), county seat of Lake County, is situated on the south end of Flathead Lake in the northeastern section of the reservation and was named in honor of David Polson, prominent area rancher. It is the largest community on the reservation, as well as the center of industry, tourism, services and trading for a large area. Polson is 26 miles from St. Ignatius, and 184 Indian families live in the vicinity.

Ronan, located in the northeastern section of the reservation in the center of the Mission Valley, was named in honor of Major Peter Ronan, Indian agent in 1877. Fifty-eight Indian families live in the town and 95 live in the surrounding area.

According to the BIA Branch of Education, the educational level on the reservation is fairly high compared to other Montana tribes.

THE
ECONOMIC
SYSTEM

Job opportunities in the area have been extremely limited and out-migration (both Indian and non-Indian) has been prevalent, particularly among the more educated, skilled younger people.

Lumbering, ranching and farming are the principal means of livelihood. Those who do not farm or raise stock make their living by working in the saw-mills and logging camps that are located on or near the reservation. Many are construction workers leaving their families on the reservation while they follow construction work off the reservation. The U.S. Employment Service in Polson estimates that thirty-seven percent of the total work force is working out of Lake County. Others are employed by the government, working with the Flathead Irrigation Project, the Flathead Indian Agency, and Indian Health Service. Some Indians manage their own businesses such as sawmills, contract logging, real estate, service stations, and construction contracts.

During the summer months, fire fighting is a major source of additional employment. Many of the Indians add to their income by cutting and marketing Christmas trees during the fall season.

Lumbering has created more employment within the area than any other type of industry.

THE
HEALTH
SYSTEM

No direct medical services are provided at the PHS Indian Health Center at St. Ignatius; however, medical services are provided through contractual arrangements. A dental clinic is located at the Health Center and is staffed by a dentist and two dental assistants.

Community health services are provided by the Indian Health Center with a psychiatrist, medical-social worker, community health educator, public health nurse, one field engineer and two environmental health technicians. In addition to this staff, a second public health nurse was obtained through contractual arrangement with the Flathead Tribe. These staff members are all based at the Service Unit headquarters in the Health Center.

The tribe has seven Community Health Representatives working on the reservation. The Community Health Representatives assist in immunization clinics, the problem of broken dental appointments, housing surveys, eye examination clinics, eyeglass repair, health care instruction to the elderly, transportation for the needy to physicians and dentists, community development and sanitation.

The Indian Health Service has contracted for hospital services with the following hospitals on the reservation: St. Joseph, a 40-bed hospital located at Polson; St. Luke's, a 25-bed hospital located at Ronan; Holy Family, a 30-bed hospital located at St. Ignatius; Sanders County, a 16-bed hospital located at Hot Springs; and Clark Fork Valley Hospital at Plains, 32 beds.

Off-reservation hospital services are provided by three hospitals located at Missoula: St. Patrick's, Missoula Community and Missoula General. Two hospitals located at Spokane and two hospitals located at Seattle are utilized as specialist referral hospitals.

FORT PECK

THE RESERVATION

The Fort Peck Reservation is in parts of Valley, Daniels, Sheridan, and Roosevelt Counties, which are located in the northeastern corner of Montana.

Wolf Point, the largest town on the reservation, has a population of 3,095. Poplar, the second largest town on the reservation with a population of 1,389, which includes the population near the city limits, is headquarters for the Assinibolne and Sioux Tribes, the Fort Peck Indian Agency, and the Fort Peck Service Unit. Brockton, Frazer, Wiotia, Riverside, Oswego, and Fort Kipp are smaller communities.

THE PEOPLE

The total Indian population in the service area is 4,294. The Indian population is concentrated in the southern one-third of the reservation, along U.S. Highway 2 and the Burlington Northern Railway. The major concentrations are found in the Poplar, Wolf Point, Brockton, and Frazer communities.

Telephone service is available in all communities on the reservation. A 1970 survey showed that only thirty percent of the homes had phones. Approximately ninety-two percent of the families have their own transportation. Passenger car transportation becomes very difficult at times during the winter when weather conditions make traveling impossible or very hazardous.

Indian children, at the request of tribal leaders, have attended public schools since 1935. More Indian students are graduating from high school and are leaning toward more vocational and technical education.

THE ECONOMIC SYSTEM

Fort Peck has many natural resources and produces an abundance of raw materials. Primarily these are agricultural. The area does not enjoy large local markets. Most of the products have to be shipped long distances to reach the major markets. There is a large potential in the development of land and water resources. This will be the future economic growth. A large power potential, unexplored mineral resources (primarily oil), and a local labor supply also point up future possibilities.

Several industries are having a great impact on income, since they employ 133 people and have plans to increase this number to approximately 160 people. The chief sources of income are: wages, land leases, dryland farming, wheat, cattle raising, oil leases, and oil production.

THE HEALTH SYSTEM

Indians on the Fort Peck Reservation are provided medical care by the Indian Health Service in diverse ways. Out-patient medical and dental services are provided directly by the Indian Health Service at its facilities in Poplar and Wolf Point. The Health Center in Poplar was originally constructed as a hospital and was built in various stages starting in 1916. The building was turned over to the Public Health Service from the Bureau of Indian Affairs when the Public Health Service assumed the medical responsibility for the Indian people in 1955. The building, as a hospital, was remodeled in 1958 and was later remodeled again and converted from a hospital to a health center in 1961. The main floor has four medical examining rooms, an emergency room, an x-ray and general medical laboratory

a pharmacy, nurses' station, sterilizing and medical supply room, medical records room, general and dental waiting rooms, two dental operatories, office space for the doctors, dentist, and administrative and clerical personnel.

The Health Center in Wolf Point was constructed by the Plant Design and Construction Branch of the Bureau of Indian Affairs in 1965 and turned over to the Indian Health Service in 1966. The first floor space consists of 732 usable net square feet and has two examining rooms, a general waiting room, a small medical records office, and a combined doctors' and nurses' office. The small laboratory and prepackaged drug room located in the building are stocked from the Poplar Health Center.

In-patient services are provided by contractual arrangement, at the Community Hospital, Poplar; Trinity Hospital, Wolf Point; and other hospitals in Great Falls, and Billings, Montana; Williston and Minot, North Dakota, and Seattle, Washington. Tuberculosis patients are referred to the PHS Indian Hospital in Rapid City, South Dakota for in-patient treatment.

The dental facilities at the PHS Health Center in Poplar consist of three fully equipped dental operatories, dark room, laboratory, office space and waiting room. The present dental staff consists of one dental officer and two dental assistants.

The physicians on the reservation, in addition to the Public Health Service physicians, include a general practitioner in Poplar and a board certified surgeon and three general practitioners in Wolf Point. If consultation is needed in any of the various specialties, patients are referred to the neighboring cities. There is an obstetrician and radiologist in Williston, North Dakota, all of which are anywhere from 100 to 300 miles away. If a patient is referred to one of these other resources, and does not have the transportation or funds to get there, the health center will provide either the transportation or a train or bus ticket.

During FY 1972, there were 27,263 total out-patient visits at the Fort Peck Service Unit. The Poplar Health Center accounted for 17,510 of these visits and the Wolf Point Health Center and health locations for 9,582. The remaining out-patient visits (531) were at night and weekends at the Community Hospital in Poplar after the health centers were closed.

ROCKY BOY

THE RESERVATION

The Rocky Boys Reservation encompasses 107,613 acres in Hill and Chouteau Counties of North Central Montana and is occupied by members of the Chippewa and Cree Indian Tribes.

The reservation, part of the old Fort Assiniboine Military Reserve, is the smallest in Montana and was established by executive order in 1916. Chiefs Rocky Boy (Chippewa) and Little Bear (Cree) were instrumental in getting the reservation set aside for their people.

The reservation people in 1935 elected to organize under the provisions of the Indian Reorganization Act. They formed the Chippewa-Cree Tribe of the Rocky Boys Reservation. Under the provisions of their Constitution, the Business Committee is the elected governing body on the reservation. One member is elected to the Committee from each district (8) and there is one member at large. Members are elected every two years on a staggered basis.

THE PEOPLE

At one time the Chippewa-Cree that settled on the Rocky Boys Reservation were of two separate and distinctive tribes. However, marriage between the members of the tribes and with others has eliminated this distinction and reduced the degree of full bloodedness.

Most of the people are English-speaking, many are bi-lingual (English-Cree), a few can speak Chippewa (linguistically related to Cree), and a few can speak some dialect of French.

Although the bulk of the reservation is situated in the Bear Paw Mountains, there are also areas of rolling foothills and flat farm land.

Rocky Boy's Agency (pop. 189), located fourteen miles southeast of Box Elder, is the tribal seat of government on the reservation. The Tribal Building, the Bureau of Indian Affairs Office, Public Health Service Indian Health Center, elementary school, service station, tribal game farm, maintenance shop, and two churches are located there.

Box Elder Creek Community (Ind. pop. 95), named after the creek which flows through it, is located approximately seven miles northwest of the agency. Duck Creek Community (Ind. pop. 85), begins on the western outskirts of the agency and is situated along several miles of the creek for which it is named. Haystack Community (Ind. pop. 291), is situated around the prominent Haystack Butte. Parker Community (Ind. pop. 137), named after a day school, is located in a wide mountain canyon two miles east of the agency. Parker Canyon Community (Ind. pop. 78), is located about one and one-half miles southeast of the agency. Sangrey Community (Ind. pop. 216), is located three miles north of the agency. From the description of the reservation communities, it is evident that ninety percent of the population lives in the east central portion of the reservation, which is the most mountainous part. The official tribal enrollment is 1,790.

Nearly one hundred percent of the reservation homes have electrical service provided by Hill County Rural Electrical Association. There is no natural gas piped into the reservation. Oil and liquified petroleum gas are the fuels of choice in most homes, although a small percentage still use wood for cooking and heating.

Approximately seventy-five to eighty percent of the families have cars. Public transportation services are mainly out of Havre; however, bus service is available from Box Elder.

The Rocky Boys Reservation has one elementary school under School District #87. The method of instruction used is individualized instruction. This is a system by which each child progresses at his own rate of learning. Underlying the high academic level is a bi-lingual program which is in operation to help students retain their Indian language and to help those who speak Cree as a first language be more able to grasp the academic goals of the school. The bi-lingual program was started as a tri-reservation program, which includes the Cheyenne, Crow and Cree in 1970. This program publishes bi-lingual material for use in the classroom.

THE ECONOMIC SYSTEM

The major resources of the reservation are land, gas, minerals, timber and natural beauty. Of the 107,613 acres within the reservation boundaries, approximately 7,000 or 6.5 percent, of the acres are used for irrigated and dryland farming. Approximately 80,000 or seventy-four percent of the acres are used for grazing. Thus, eighty-one percent of the land area is used for agricultural purposes. The remaining nineteen percent is not suitable for agricultural purposes and is being used for home and institutional sites. All land is tribally-owned, but free use assignments of 160 acres each have been granted to approximately 144 families. Lands not in free use by tribal members are leased to others, Indian or non-Indian. Lease fees provide the tribal government's principal source of income.

Although there are no producing gas or oil wells on the reservation, \$45,000 was realized from leases during FY 1971. Gas is potentially the most valuable mineral resource. When the wells begin to produce, the tribe should realize substantial income from royalties.

There are 11,407 acres of timberland which, it is estimated, could yield approximately three million board feet per year for seven years; however, attempts to establish a sawmill to convert the standing timber into marketable lumber have been fraught with difficulty. Currently a mill and post plant is operating which should bring the tribe \$30,000 in yearly income.

It has been the custom for many of the Rocky Boy's people to leave the reservation each summer to work on farms and ranches or at other seasonal jobs. Increased mechanization has reduced the number of such jobs, and the future for unskilled workers, here as elsewhere, is bleak. The average earned annual family income is approximately \$2,195 and the unemployment rate is sixty percent.

THE HEALTH SYSTEM

The Indian Health Service operates a Health Center at the agency. It was built as a Health Station in 1964 with facilities for limited outpatient services. The patients' waiting room, admitting office, two examination rooms, nurses' workroom, clinic nurses' office, cast room, pharmacy/laboratory, and x-ray room are on the upper level. The lower level contains the dental suite, offices for the Community Health Service staff, a staff conference room, storage facilities, and a mechanical room.

Besides the Indian Health Service Out-Patient Clinic, some persons are eligible for private medical care by virtue of having insurance or being eligible for Medicaid or Medicare. In-patient services are contracted to hospitals in Havre and Great Falls. The present staff physician is a staff member of the hospital in Havre. The Fort Belknap Indian Hospital is seldom used by patients from the Rocky Boys Reservation.

Dental services are provided by a resident dentist who sees patients five days a week. The majority of the dental patients are school children bussed from the school on a regular basis. Adult patients are seen by appointment.

Community health services are provided by a team of persons under the direction of the Community Health Services Director. Included in community health services are a public health nurse, a sanitarian technician, a community health educator, a psychiatric social worker, and a mental health aide. Community clinic activities include weekly maternity and well-child clinics, quarterly chest clinics, monthly diabetic clinics, ENT clinics as scheduled, and immunization clinics as indicated in the school program. The environmental health branch employs a technician who investigates diseases that can be caused by water or by the environment. He trains people to control or eliminate the environmental factors which form links in the chain of transmission of diseases.

OFF-RESERVATION INDIANS AND HEALTH

PROBLEM A: HEALTH CARE SERVICES TO MONTANA'S OFF-RESERVATION INDIAN POPULATION ARE OFTEN NOT AVAILABLE.

Probably no other single group can be identified in Montana with greater difficulties in receiving health services than the off-reservation Indians. For the most part non-reservation Indians live in six urban areas in Montana--Great Falls, Butte, Billings, Havre, Helena and Missoula. Exactly how many Indian people live in these cities is difficult to ascertain because of fluctuation with people moving in and out of the cities. The use of census figures is considered inadequate by nearly every non-reservation Indian questioned with respect to the Indian population in a given city. An example of the documentation of the inadequacy of the census reports is an admittedly too short nine-day survey done in Great Falls in 1972.* The study in a very short time identified 2,050 Indians while only 1,509 were disclosed in the census report. The following are estimates of the Indian population in the six previously stated Montana cities: Great Falls, 3,300; Butte, 1,500; Billings, 3,500; Havre, 1,500; Helena, 1,000 and Missoula, 2,000.

The majority of off-reservation Indians in Montana live in near poverty with no ability to pay for medical services. Their only recourse is often to return to a reservation medical service center which fortunately in the case of Billings, Missoula and Havre is within fifty miles. The remaining Montana cities, however, are much more distant and driving is often not practical. There is no identified medical service center in the six cities to which Indians can turn with comfort in the knowledge that they are not going to be liable for services received.

An urban Indian outreach program called WICONI has identified a significant number of health problems but has often been unable to gain access to services:

"The overall record for referral in the general health field is not good. Only 44% of those seeking service for general health problems could be referred, and only two-thirds of them received assistance. Thus less than one-third of the general health problems received satisfactory attention. This, of course, was not the fault of WICONI but points up the futility of a referral system when agencies and services do not exist or are unable to meet the people's needs."**

Because health services are not provided by the Indian Health Service to urban Indians in Montana, unless rendered in an IHS Center, and because of poor cultural awareness on the part of urban service centers, service methods need to be developed that allow Indians access to health services in urban areas.

*Opportunities, Inc., Survey of Indians of Cascade County, Montana, February/March, 1972, 29 pages (mimeo).

**WICONI, 1973 Annual Report, MUIA, 436 N. Jackson, Helena, Montana, p. 21.

OBJECTIVE 1: *To promote the accessibility of health services to off-reservation Indians by 1976.*

Sub-Objective a: Establish clinics by 1976 in urban communities that are known to Indian people as places where services can be obtained. These clinics would be on a regular or irregular basis depending on utilization and would use existing service centers in a non-duplicating manner.

Implementation: Local Indian Alliances and on-going clinical service centers through cooperative efforts can establish Indian health centers.

Sub-Objective b: Expand urban Indian health outreach programs to insure as many Indian people as possible will have a health advocate by 1975.

Implementation: The Montana United Indian Association through expansion of the WICONI program is the appropriate agency for implementation of this sub-objective.

Sub-Objective c: Develop a transportation system by 1976 that will allow urban Indians easier access to reservation health centers.

Implementation: Local Indian Alliances in cooperation with the Indian Health Service can establish transportation systems.

The health industry is one of the largest industries in the country and is continuing to grow rapidly. It now accounts for about eight percent of the gross national product. Yet, as health care expenditures consume ever more personal and governmental capital, increasing concern is voiced about the product which is being delivered. Critics call the situation a crisis, pointing out that while costs are rising, access to health care has not improved. In economic terms, the supply of health services does not equal the demand for health services.

Economic analysis is being used to gain greater insight into the causes of the problems. Economists are studying ways of making the existing system more efficient (i.e., producing more services for the existing level of expenditures). They are hampered in their efforts, however, because the health industry is unlike other industries in several important respects.

Perhaps the most complicating factor is that there is an absence of traditional market mechanisms, such as:

1. Freedom of entry for buyers and sellers not currently in the market,
2. Buyers and sellers acting independently,
3. Many well-informed buyers and sellers no one of whom is large enough to influence price.

There are some very good reasons for the absence of these mechanisms in the health market:

- A. In most areas a "natural monopoly" of health services exists since there is not the population to support enough hospitals or enough practitioners in each specialty to fulfill the requirements of a competitive market. Since large hospitals are more economically efficient than smaller ones, the benefits of a large cooperating institution must be weighed against the benefits claimed from competition.
- B. In other industries consumers buy goods and services directly from producers. In health the consumer is usually driven (through illness or injury) to seek a primary provider who then assumes a role for the consumer and demands goods and services on his/her behalf. In other industries consumers pay for services directly. In health a majority of services are paid by third party carriers (insurance companies, Medicare, Medicaid, etc.). This obscures the traditional linkage between the buyers and sellers of services.
- C. An obvious and deliberate interference with competition is the barrier to entry in the health market place caused by licensure of physicians. Legislatures in all states long ago determined that the benefit of protection of the public afforded by licensure outweighed the benefits of pure competition.
- D. In the health field more than in other fields, the decisions of individuals or groups have implications for the health of others, but

these implications are not reflected in prices to others. These implications are called "externalities." For instance, my decision to be vaccinated for a communicable disease will have the effect of lowering the costs of health care to you since you will be less likely to get sick. My decision to let pollution spew from my factory raises the costs of health care to you.

Since there is no way practical to arrange direct compensation for externalities, legislators have passed laws prohibiting or requiring certain actions. These laws are for the purpose of assuring that health costs are as low, and health benefits as high to society, as possible. These types of services, as well as those which can only be provided in large units, (e.g., water fluoridation) are difficult, if not impossible, to purchase on an individual basis and are therefore usually provided by public health departments, if at all.

The absence of these market forces which control the number and size of producers and ration the number of services (through price) to consumers have caused the principal problems (inflation, overbedding, maldistribution of physicians) with the system. To fill this market vacuum and because of an increasing commitment to the ideal of health care as a right not a privilege, government at all levels has attempted to impact on the industry as a substitute for market controls.

A direct result of this commitment was the creation of Comprehensive Health Planning agencies through the passage of the Partnership for Health Act in 1966. The goal was to plan for a comprehensive integrated health care delivery system and attempt to implement such a system by controlling (through Section 1122 health facility reviews, etc.) the development of new services and new facilities. The Congress has increasingly emphasized this duty and responsibility of CHP by strengthening its power and authority to make and sustain decisions regarding health system development. Therefore, in the last analysis, CHP's have been given the responsibility of shoring up the deficiencies in the existing health care system and assisting the market mechanism in controlling the growth and development of that system. Acceptance of the concept of health care as a right and the inability of the industry to internally solve its problems have only served to strengthen this role.

The State Plan for Health has been developed to impact on all aspects of the health system with the goal of containing cost and making the system more efficient and equitable.*

*The two are not synonymous: Efficiency deals with maximizing outcome from a given level of income or minimizing income required for a given level of outcome. Equity involves society's collective decisions on which individuals or groups of individuals "deserve" to receive income, goods and services.

PROBLEM A: EXISTING HEALTH-RELATED DATA ARE INCOMPLETE, FRAGMENTED AND UNCOORDINATED MAKING EMPIRICAL ASSESSMENTS OF PROPOSED HEALTH SERVICES AND/OR FACILITIES IMPOSSIBLE.

Complete and empirically sound health-related data are collected by a variety of state agencies, organizations and private companies. Yet, the various data elements have not been interfaced in an attempt to develop a coordinated health data system. Such a data system would prove invaluable in quantifying proposed impacts on the existing health care system.

The types of data which should be coordinated in such a system include:

- Vital Statistics
- Health Professional Licensing Statistics
- Occupational Safety and Health Accident and Illness Reports
- Highway Patrol Accident and Injury Data
- Hill-Burton Facilities and Utilization Data
- Business and Economic Analysis and Forecast Data (population, employment, income, industrial and mineral extraction potential, etc.)
- State Insurance Commission Reports
- Medicaid and Medicare Data
- Census Data
- Indian Health Service Data
- Hospital Utilization and Patient Origin Studies Information
- Professional Standards Review Organization (PSRO) Figures

The above data, properly configured, could shed valuable light on quantifying gaps in services, potential health manpower shortages, areas of growing need for health services (by type), and the potential costs of new facilities and services. This would permit a clearer assessment by the 1122 review committees of the expected impacts of new proposals at both the areawide and state levels.

OBJECTIVE 1: To coordinate state health data sources into an on-going health data system.

Sub-Objective a: To secure funds to initiate such a data coordination and management function by July 1, 1975.

Implementation: CHP should approach RMP's and federal agencies to seek funds.

Sub-Objective b: To create a coordinating committee on health data to guide the above effort by 1976.

Implementation: The committee should consist of representatives from the major data sources. CHP and other appropriate offices of the SDH&ES should convene the committee.

PROBLEM B: THE HIGH COST OF HEALTH CARE ACTS AS A BARRIER TO RECEIVING MEDICAL SERVICES.

The cost of health care is probably the most significant barrier to receiving medical services encountered by the general population of Montana. An indication of the gravity of this problem can be derived from comparable national data. Currently each person in this country spends a yearly average of \$394 for health care; for an average family of four, the yearly health care bill would total \$1,576 or approximately 12% of an average family's disposable income. Twelve years ago the cost of health care per capita was \$161 or \$644 for a family of four. In the space of a decade, health care costs have more than doubled--an increase of 145%. During the same period incomes have grown 32% and the consumer price index increased 36%. Health care is costing consumers an ever larger percentage of their income and consequently driving low-income and, to an increasing extent, middle-income families into medical indigency. As the cost for such a necessary service as health care grows requiring larger shares of consumer income, progressively less income remains for the other necessities and luxuries. In 1950, families spent only 5.8% of their income on health; by 1962, that figure had increased to 6.8%--significantly smaller than the estimated 12% currently allocated for family health.

These increases are especially damaging to those on fixed incomes and those on welfare and social service programs. This situation generated the passage of legislation establishing the Medicaid and Medicare programs. These financing programs permit access to a health care system decidedly unprepared to cope with the unanticipated influx of demand for services. The result has been unprecedented inflation in the cost of health care.

The problem becomes one of containing this precipitous rise in cost caused by excess demand on the existing health care delivery system. To impact on the problem, each of the following facets of the system must be addressed:

- I. Supply (of health care manpower and facilities),
- II. Payment Mechanism (refinement of linkages),
- III. Organization (improving the system's efficiency),
- IV. Demand (reducing unnecessary utilization of the system by providers and consumers).

I. Supply

The supply considerations are addressed in the Health Manpower and Health Facilities sections of this Plan.

II. Payment Mechanism

Consumers currently pay for their health care through taxes, insurance premiums and out of their pocket. Only through the latter method is there a direct exchange of money between consumer and provider. Otherwise financial third-parties (the government and insurance carriers) acting as intermediaries between consumer and provider in the health care transaction have significantly contributed to the problem for the following reasons:

A. Gaps in Coverage

It has been said that people never know the extent of their health insurance coverage until after they get sick and receive a statement for services rendered but not covered by their insurance policy. While nine out of ten Montanans have some type of health insurance covering only 65% of their health care liabilities, it is probable that a large number believe their insurance policy covers all health expenses. Unfortunately, consumers too often do not investigate the extent of their coverage prior to the time when a need for it arises.

Individuals without insurance coverage (including Medicaid or Medicare) are self-insuring themselves, wagering that nothing catastrophic will occur reducing them to bankruptcy and forcing the system to assume the expenses. Those with only partial coverage--that is no surgical, major medical, or extremely limited health hospitalization--run a more limited risk. The problem concerns consumers who are swayed into purchasing less expensive limited policies without understanding the risks they are assuming.

To alleviate this problem and gain more direct control on utilization and cost, national health insurance has been proposed. Such a plan would provide all carriers with access to a minimum level of benefits at a cost roughly proportionate to their income. While national health insurance (NHI) will reduce the cost of an illness to an individual, it is probable that it will raise the total health care costs nationally. People who are not seeking care now because of costs will seek it under NHI, thus raising the demand for health services.

Several plans for the implementation of a national health insurance (NHI) have been introduced by the administration (Bennett), organized labor (Kennedy), health insurance industry (Burlinson, McIntyre), AMA (Broybill-Hartke) and the American Hospital Association (Ullman). A compromise version is expected which will encompass the following features:

1. All employed residents would have either mandatory or voluntary access to coverage.
2. Existing Medicaid and Medicare programs would be coordinated with NHI.
3. Benefit packages would cover limited (60 days +) or unlimited hospitalization, physician services in and out of the hospital, most drugs, laboratory and X-rays, limited extended care, dental, eye and home health benefits.
4. Financing the Plan would be done through employer/employee contribution (like Social Security) and tax revenues (for low-income).

As with any piece of legislation, unless bills are watched, important facets can be omitted. In most NHI bills, long-term care coverage was originally not included. While significant NHI issues need to be worked out (especially who will control the system) passage of one version or a compromise version in the next 1 - 3 years appears certain. NHI's passage will give every citizen the opportunity to join a health insurance plan with no waiting periods and a fairly comprehensive (depending on the plan accepted) benefits package thus eliminating confusion as to which services are provided to which individuals.

HILL-BURTON REQUIREMENTS

Hill-Burton regulations published in 1973 require all health facilities which have received Hill-Burton funds to provide a reasonable volume of services to people unable to pay for them. Facilities are given three options as to how to comply with the free or reduced rate care regulation. The facility may make available on request uncompensated services at a level not less than:

3% of operating costs for the fiscal year after subtraction of Medicare and Medicaid reimbursement, or

10% of all federal assistance received per year for twenty years, or

the facility may certify that it will not exclude any person from admission because he is unable to pay.

B. Confusing Coverage

Even with passage of an NHI, private health insurance policies will be developed, marketed and sold to the State's residents. The language used in policies, which are legal documents, is often incomprehensible to the policy holder. The meaning of co-insurance, deductible, waiting period, manifested vs. contracted, and the many other types of terminology used in health insurance policies are seldom explained adequately to the policy holder. Moreover, the many classes of health insurance policies from hospital to "dread disease" coverage contribute to this misunderstanding.

The consumer who often pays up to \$500 a year in premiums has a right to know exactly what he is insured against. He should be protected against deceptive sales and be informed of the shortcomings of health insurance policies.

C. Reimbursement Policies

To control against excess utilization of those services covered in health-benefit packages, various conditions and criteria are required before reimbursement is approved. The most important of these requires that most x-rays and laboratory procedures, all surgical facility charges and several diagnostic procedures require hospital admission of the patient before a claim for reimbursement will be approved. The result, predictably, has been unnecessary utilization of hospital beds. Consumers, having purchased health insurance, rationally desire to utilize these types of procedures on a reimbursable basis. Since most plans cover both the procedure done on an in-patient basis as well as the in-patient stay itself, the consumer is admitted overnight. This practice of hospitalizing for out-patient procedures increases the cost of each procedure 25% to 100% which is reimbursed by the insurance carrier and passed back to the consumer via higher premium costs or taxes.

OBJECTIVE 1: To support a program for comprehensive national health insurance.

Sub-Objective a: To assist in educating providers and consumers on the advantages of NHI by 1976.

Implementation: Much of the opposition to NHI stems from lack of knowledge of what it really is. CHP will develop material on national health insurance.

With or without the passage of NHI, residents of Montana should be guaranteed a minimum level of health benefits from all health insurance policies sold in the state. This protection will serve to coordinate the existing health benefits packages reducing the risk and uncertainty which currently are associated with securing health insurance.

OBJECTIVE 2: *The Hill-Burton free and reduced rate care provisions should continue to be enforced.*

Sub-Objective a: Recipients of Hill-Burton funds should be encouraged to develop a uniform strategy for affirmative action in granting free or reduced rate care under Hill-Burton regulations by January, 1975.

Implementation: The Division of Hospital and Medical Facilities should continue to require each health facility receiving Hill-Burton funds to develop a strategy for affirmative action and should make a proposed strategy available to each facility.

Sub-Objective b: Information about the Hill-Burton free care provisions shall be disseminated by September 1, 1974.

Implementation: The Department of Health and Environmental Sciences should provide guidelines to the areawide agencies on the Hill-Burton free care provisions. The area-wide agencies should be encouraged to meet with low-income groups and facility administrators in their area to explain the provisions.

OBJECTIVE 3: To study other state health insurance laws and other state experiences regarding minimum amounts of health insurance and its applicability in Montana.

Sub-Objective a: To expand the funding of the State Deputy Insurance Commissioner's Office to equip it to research the practicality of establishing minimum insurance policy coverage.

Implementation: CHP will meet with the staff of the State Auditor to investigate methods to accomplish this.

OBJECTIVE 4: To promote the development of regulations requiring improved health insurance policy coverage information and promote increased public awareness of particular aspects of health insurance coverage by 1976.

Sub-Objective a: Promote improved health insurance policy information by 1976.

Implementation: The Deputy Insurance Commissioner with appropriate staff would be best suited to implement this sub-objective.

Sub-Objective b: Develop and distribute a "Shopper's Guide" to health insurance similar to the Pennsylvania guide.

Implementation: As in Pennsylvania, the Insurance Commissioner is best suited to develop a "Shopper's Guide".

OBJECTIVE 5: *To eliminate costly hospitalization criteria for out-patient services and procedures where possible.*

Sub-Objective a: To investigate the reimbursement practice for out-patient surgery, lab, X-ray, etc.; educate third party carriers concerning the cost of existing reimbursement practices; and develop new guidelines for control over out-patient utilization of the above services.

Implementation: This section could be implemented through cooperation of the Montana Medical Association, the Insurance Commissioner, and third party insurers.

III. Organizational Improvements

A third way to provide impact on the cost of health care involves improving the efficiency of the existing delivery system through reorganization. Shared services by facilities and the satellite concept are considered in the Health Facilities section of the Plan. This section deals with reversing the incentives generated by a delivery system organized around fee-for-service reimbursement.

A. Health Maintenance Organizations (HMO)*

The concept of reimbursing health providers who keep the consumers healthy rather than the present system which reimburses for the treatment of the sick is not new, but only recently has interest been demonstrated in its cost-controlling potential. This health delivery mechanism known as a Health Maintenance Organization (HMO) seems to ameliorate the rapid inflation in health costs, too little emphasis on prevention and the increasing unevenness in the distribution and quality of medical care.

Currently approximately five million people in the United States are enrolled in health care organizations of this type. The largest, with two million enrollees, is the Kaiser Plan located in California, Hawaii, Colorado, Oregon and Ohio. The concept has gained federal approval with the passage of the HMO Act of 1973 authorizing \$375 million in grants, loans and technical assistance for the nationwide development of HMO's.

The organization forms which an HMO may take are extremely flexible and can be devised around any set of circumstances. Existing HMO's have been organized and controlled by industry (Kaiser), unions (Cleveland Plan), consumers (Pudget Sound Group Health), group practice clinics (Marshfield Plan), medical foundations (San Joaquin), insurance companies (Columbia Plan), universities (Harvard Plan), neighborhood health centers (Utah Group Health Plan) and various combinations of the above.

The principle components which all HMO organizations contain are:

1. An enrolled population, which pays a fixed premium every month for comprehensive health care services. This reversal in the payment mechanism from the traditional fee-for-service practice places the incentive to contain the cost of medical care with the physicians. As the principle decision maker in demanding medical goods and services, the physician now has a fixed pot of money (the number of subscribers multiplied by the monthly premium) with which to take care of the health care needs of everyone enrolled in the HMO. If no one gets sick then the HMO gets to keep all the money. On the other hand, if many need open heart surgery, the HMO needs to spend much more than was paid in. Fortunately, we know the utilization rates for virtually all health services; therefore, depending on the size of the enrollee group, detailed utilization estimates can be made with a high degree of reliability.
2. Physicians, practicing solo or in a group, who supply all physician services (home, clinic or hospital) rewarded financially for reduction in unnecessary utilization. The physician requires

*See also Health Services Chapter, p. 40.

ments for every 1,000 enrollees is one full-time equivalent physician. Primary care physicians (G.P.'s, Internists, Obstetricians-Gynecologists, Pediatricians) form the core of such a group with specialty services supplied by consultants in small HMO's and by staff specialists in larger groups for larger enrollee bases.

3. Service contracts, between the HMO and purveyors of hospital, pharmacy, X-ray, lab, extended care, etc., for services which are not provided in-house by the HMO. The Kaiser Plan, for example, owns seventeen hospitals, several pharmacies, clinics, X-ray and lab facilities and therefore only contracts out for extended care facilities. Smaller plans like the medical foundation in San Joaquin, California, negotiate contracts with area hospitals, pharmacies, nursing homes and mental health centers for most of these services.

An insurance carrier is usually required to provide the marketing (especially access to the carrier's existing subscriber base), promotion, financial reserves required by state law, out-of-area coverage and catastrophic insurance. The latter two items need clarification. Out-of-area coverage consists of guaranteeing payment for medical emergencies which occur outside the HMO's service area (e.g., the state of Montana). The services so rendered are then reimbursed on a fee-for-service basis. Catastrophic insurance provides the HMO protection against excessive utilization. The HMO buys insurance against health care costs over, say \$5,000 per enrollee. Once that limit is reached by a patient, the HMO is then reimbursed by the insurance company for all costs over that limit.

Again, the above components can be arranged in a variety of ways: HMO's have been developed and controlled by subscribers (unions), hospitals, physicians, medical societies, clinics and private investors.

Because of the lack of heavily populated urban areas in Montana from which to generate the 15,000 plus enrollees necessary to spread risk and sustain an HMO, centralized group-practice clinics and individual hospitals do not appear as viable HMO candidates in the state. The model which appears to have the most applicability is the medical foundation sponsored by regional aggregations of county medical societies or the Montana Medical Association and supported by an active majority of physicians. (A possible variant would involve sponsorship by Blue Cross and/or Blue Shield on a statewide basis, again with the support of a majority of physicians.) A clinic level group practice could be viable if it were the major provider of health services in an area of 50,000 or more people who already have access to major fee-for-service health plan coverage.

The foundation model consists of a loose affiliation of primary care physicians who agree to accept patients on a prepaid basis, in addition to fee-for-service. The consumer then enrolls in the foundation set up jointly by all the physicians. The physician becomes responsible for that consumer's health and receives a major fraction of the premium payment. The remainder of the premium is spent on contracts with hospitals, X-ray, laboratory and other available services covered in the Plan. An incentive pool is developed

for all participating physicians to reward them for reduction in utilization of these in-patient and ancillary services. If the total cost for providing comprehensive health care is less than the revenue generated by the premiums, the physician receives a bonus; otherwise the HMO plan or, in a foundation model, the physicians are liable.

With the passage of P.L. 93-222, the Health Maintenance Organization Act of 1973, the federal government has reemphasized its policy of promoting the development of HMO's wherever possible in this country. Special considerations will be given medically underserved areas in issuing feasibility, planning, development and operational grants and low interest, long-term (20 year) loans. Furthermore, all employers of 25 or more employees will be required to offer a qualified HMO plan if one exists in the area. To qualify, however, an extensive benefits package is required which includes:

1. In- and out-patient physician services;
2. In- and out-patient hospital services;
3. Emergency services;
4. Limited (20 visits/year) mental health service;
5. Medical treatment and referral for alcohol and drug addiction and abuse;
6. Diagnostic lab, and diagnostic and therapeutic X-ray;
7. Home health service;
8. Preventive health service including:
 - a. Family planning
 - b. Preventive dental care for children through age 11
 - c. Pediatric and adult immunization
9. Medical social service;
10. Health education service.

The state of Montana has witnessed two short-lived HMO feasibility studies since 1970. Both studies, in Butte and Missoula, were unsuccessful in continuing beyond initial investigative stages because of opposition from local provider agencies. However, recent national developments, notably the passage of P.L. 93-222 and increased interest in national health insurance, will move astute health providers and provider agencies to seriously investigate HMO's in Montana. The consequence of not moving in the direction of HMO development in Montana may prove disastrous to providers when new legislation is passed and increased controls are placed on them. There is a need for a comprehensive study of the feasibility of HMO's in Montana with emphasis on rural-urban regional systems that will serve large areas.

OBJECTIVE 6: To promote and assist in the establishment of a Health Maintenance Organization in Montana.

Sub-Objective a: To develop funds through application for a feasibility grant under P.L. 93-222 for a survey of HMO applications in Montana with specific recommendations and follow-up by 1976.

Implementation: CHP will coordinate interested groups by convening a meeting at which representatives of appropriate associations and universities will decide if an application should be submitted.

B. Out-patient Surgical Units

A second type of organizational improvement lies in the development of short-stay, ambulatory surgical units. There are many routine, low-risk, surgical procedures not requiring extensive preoperative preparation or an overnight post operative recovery period which can be done safely and efficiently in a unit designed to specialize in these procedures. Examples of possible procedures include:

- Tonsillectomy and Adenoidectomy
- Dilation and Curettage
- Cystoscopy
- Inguinal Hernia (children)
- Vasectomy
- Myringotomy
- Tubal Ligations
- Plastic Surgical Procedures
- Oral Surgical Procedures
- Podiatric Surgical Procedures

These types of procedures are being done in a number of ambulatory units around the country. Some of these units are institutionally related (e.g., UCLA Medical Center, George Washington University Hospital, Mount Vernon Medical Center) while others are free-standing (e.g., Surgicenter in Phoenix and Walnut Creek Surgical Center). More and more hospitals are configuring sections of their existing surgical areas into ambulatory units by adding waiting areas, pre-op examination rooms, and post-op recovery lounges used in addition to the recovery room. These areas and one or more operating rooms are tied together as a special unit with designated personnel. These facilities and personnel undertake short-stay surgery exclusively.

The advantages of establishing hospital-based, ambulatory surgical units include continuing access to reimbursement, ability to handle efficiently both long and short-stay procedures in the same facility, access to an established group of physicians and surgeons, and low capital requirements. Since the incidence of short-stay procedures (based on Blue Cross/Blue Shield data) is conservatively placed at 17 per 1,000 population below age 65, a significant population base in excess of 250,000 (yielding 4,000 cases) is required to consider a free-standing facility. Therefore, in less populated areas the existing hospital provides the only economically viable location for ambulatory surgical units.

In larger population centers more attention has been focused on free-standing facilities consisting of four to eight operating rooms and support areas. These facilities are operated by anesthesiologists and draw

on all qualified physicians in the area regardless of hospital affiliation. The principle drawback of such facilities centers on the lack of third-party reimbursement for the facility and supplies from insurance carriers and Medicaid. Physician acceptance is required and hospital tolerance necessary.

The major advantages for the implementation of either hospital or free-standing short-stay programs are threefold:

1. Significant Reduction in Cost to the Consumer

The reduction in in-patient charges is, of course, the most obvious savings. The elimination of an average 1.5 in-patient days saves the consumer approximately \$90 per procedure. To this can be added cost reductions generated by the specialized nature of the procedures and the elimination of unnecessary lab and X-ray work done routinely on all hospital in-patients but not required for carefully pre-screened patients and cases admitted to short-stay units. While it appears that such units in hospitals result in less cost reduction than free-standing facilities, the overall savings to the consumer averages in excess of \$130 per case. Surgicenter in Phoenix claims to have saved consumers and insurance carriers over \$2 million in their first three years of operation. Similar savings are being reported from other free-standing facilities and hospital-based units.

2. Patient Convenience

Aside from substantial cost savings, patients utilizing a short-stay visit escape the trauma of an overnight hospital stay. This is especially true for children. Not only is the emotional shock of a hospital stay eliminated, but recovery time is decreased and the possibility of cross infection minimized.

3. Extension Service

Many physicians, dentists, and podiatrists are now operating in their offices under strained conditions. The presence of a short-stay unit in a community permits surgeons, dentists, and podiatrists access to fully equipped and professionally staffed operating facilities.

The fear by third-party carriers of overutilization is diminishing as Professional Standards Review Organizations (PSRO's) become involved on behalf of the carriers to monitor use of these units.

OBJECTIVE 7: To promote and assist in the establishment of hospital-based short-stay surgical units in urban areas.

Sub-Objective a: To determine economically feasible areas for short-stay units by 1976.

Sub-Objective b: To provide assistance to hospitals in identified areas for development of short-stay units by 1976.

Sub-Objective c: To assist in eliminating legal and reimbursement barriers to the establishment of such units by 1976.

Implementation: Through a cooperative effort between the Montana Medical Association, Montana Hospital Association, and CHP, these sub-objectives can be implemented.

IV. Reducing Excessive Demand

This issue has been raised in discussing payment mechanisms (Section II above). The high cost of health care can be directly impacted upon by reducing the unnecessary demand for services. Currently, Professional Standards Review Organizations are being developed in all states to determine if health care delivered in institutions is medically necessary, whether it is of a quality which meets physicians' developed norms, criteria and standards, and whether it is delivered in a setting most appropriate to the patient's needs. The PSRO's will identify both under-utilization (poor quality) and over-utilization (high cost) of health services.

OBJECTIVE 8: To assist and support the development of a PSRO program in Montana.

Sub-Objective a: To educate Montana providers on the PSRO concept and press for the organization of a PSRO in Montana by 1975.

Implementation: The Montana Medical Association and the Montana Medical Education and Research Foundation are the appropriate agencies to implement this sub-objective.

Any plan is incomplete unless it contains a method for continuous monitoring of its effectiveness and impact as well as a process for incorporating feedback encountered in implementation efforts. Throughout the development of this document, serious attention has been given to the importance of implementing its contents.

As efforts at implementation are made by CHP staff, Council, and committee members and interested parties, new and additional information will be uncovered. This information will either attest to or dispute the placement of priorities in the first edition of the Plan and will suggest other areas of health which should be added. Through continuing analysis of this information, necessary modifications can be made in goals, objectives, sub-objectives, or implementation statements.

The aim is to make this Plan a living and changing document, to keep it up to date, and to enable its content and purpose to reflect the real world.

The process for providing a realistic implementation workload for the CHP program and allowing for useful feedback information upon which to base the monitoring procedures will take the following form:

1. During the first Committee and Council meetings which take place after the adoption of the first edition of the State Plan for Health, the Committees and the Council will be requested to list the objectives in each chapter in order of priority. The objectives receiving the highest priority ratings will receive the most immediate and intensive implementation attention.

The objectives should be listed in order of priority after careful consideration is made of the following factors: a) the primary party or group responsible, b) the political feasibility, c) available resources, and d) the projected time required for implementation. Each Committee should choose one objective for immediate attention which will represent a reasonable, well-balanced program resulting in both long-range effects and short-range benefits. The specific formula will be left to the discretion of the Committee and its staff member.

2. After the prioritization process has taken place, the staff will provide a specific plan of implementation for each objective receiving top priority within each chapter.

These specific implementation plans will be devised with the assistance of the appropriate Committee and will receive final approval from the Advisory Council. All implementation will include timed work activities which will easily lend themselves to a monthly reporting procedure.

3. Reports will be filed on a monthly basis with the administrator of the CHP Division and the Committee responsible for that specific objective explicitly outlining all relevant information learned as a result of the implementation efforts.
4. The monthly reports will indicate responses received from all sources which indicate the relevancy of the objective being implemented, the

feasibility of accomplishing the implementation, any indication pointing to the need for development of new sections of the Plan, additions, deletions, and/or other changes needed in existing sections of the Plan.

5. The monthly implementation reports will be summarized for presentation to the Advisory Council and other interested parties. The Advisory Council will be requested to act upon recommendations for alteration and addition to the Plan as they are indicated by the reports.
6. As the higher priority objectives come close to being implemented and as the work load slacks off on the objectives receiving immediate attention, the Committees and staff will go on to the objectives next highest on the priorities list and attempt to implement them.
7. The administrator of CHP will determine which objectives do not require much implementation responsibility on the part of the CHP State Office and see that the necessary contacts with the other more relevant implementation authorities are made. The administrator will make the implementation report on a monthly basis on these objectives.
8. Three months after the Plan has been disseminated and on yearly intervals thereafter, the CHP office will widely publicize a request that any party or group in the state which wishes to submit proposals in writing for altering the contents of the Plan (whether they be additions, deletions, or content alteration) may do so by contacting the State CHP Office. Arrangements will be made to allow the proposal to be considered at the subsequent Committee and Council meetings.

DISSEMINATION OF THE
STATE PLAN FOR HEALTH

The Montana State Plan for Health is housed in the following libraries in the State:

- All public libraries and in the two counties which have no public libraries (Golden Valley and Carter) in the high school libraries
- College and university libraries

Other individuals and groups receiving copies of the Plan are as follows:

- CHP Advisory Council members and CHP non-Council Committee members
- CHP Areawide organizations including:

Eastern Montana Economic Development Association
Box 388
Sidney, Montana 59270

North Central Montana Health Planning Council
424 Main Street
Shelby, Montana 59474

South Central Regional Health Planning Council, Inc.
1245 North 29th Street
Billings, Montana 59101

Southwestern Areawide Health Planning Council
324 Fuller
Helena, Montana 59601

Northwestern Montana Areawide Health Planning Council
127 East Main
Box 516
Missoula, Montana 59801

- Groups called upon to implement actions (see Index)
- Bureaus and Divisions of the State Department of Health and Environmental Sciences
- Health, Welfare, and Safety Committees of the Montana Legislature
- Health Professions Schools
- Local Health Departments

ROBERT J. HAGGERTY, M.D.

THE BOUNDARIES OF HEALTH CARE

NATIONAL PRIORITIES have now been set for health services in our country: they are to increase access, to moderate cost, and to maintain or improve quality.¹ Most of the current efforts are directed to the first two of these goals—getting existing types of services to those who do not now receive them and reorganizing and financing care to improve efficiency and contain costs. Solutions to these first two goals are in sight although considerable struggles still lie ahead before they are achieved.

While the public and the professions are most concerned with these two issues today, I suspect that the next crisis will center around the issue of quality—and by quality I mean effectiveness of the whole process of health services and what factors produce health. I will review a few studies that bear on this and then discuss what role medicine can play in the production of health as opposed to merely providing health services. This will lead me on into several areas not now a part of traditional medical care. This future oriented area, I think, is appropriately titled “The Boundaries of Health Care.”

I. HEALTH SERVICES AND THEIR EFFECT ON HEALTH

First, I would like to review some evidence as to the effectiveness of health services in changing health. Health itself is difficult to measure, but there can be little argument that it is somehow the reciprocal or absence of mortality, morbidity, disability and distress. I will start with two studies in underdeveloped areas where we might expect the evidence to be clear. If 20th century curative medicine is introduced into a primitive society, surely some improvement in health should occur. But the data are not very convincing. The first study was a controlled trial in three villages in Guatemala carried out by N. S. Scrimshaw and his colleagues.² In the three villages, modern medical care was delivered to one, nutrition and medical care to a second and neither to a third. After five years the data were discouraging. Among the preschool population episodes of illness were actually higher in the village receiving medical care, while there was little difference between the village receiving nutritional supplements and the control village.

In a second study by Walsh McDermott and colleagues from Cornell Medical College,³ modern medical care was introduced and delivered for five years to a population of about 2,000 Navaho Indians who had primitive living conditions and little medical care, but adequate nutrition. The data are not quite so discouraging.

Tuberculosis and otitis media were reduced, some surgically treated conditions, especially trauma, benefited from medical care, but trachoma, pneumonia and diarrhea were unaffected—neither their morbidity nor mortality—nor were other less common illnesses. To quote from their conclusions:

Thus, the delivery of this carefully organized and well received primary health care system to Many-Farms Rough Rock Community had relatively little influence on disease here. The two conditions that did not require changes in household practices for their control—otitis media and the transfer of the tubercle bacillus—were significantly influenced, but the two (diarrhea and pneumonia) that did require such changes were not.

Dr. Haggerty (ΑΩΑ, Cornell University, 1948) is Professor and Chairman of the Department of Pediatrics at the University of Rochester School of Medicine and Dentistry. This paper is based on Dr. Haggerty's Alpha Omega Alpha lecture at the University of Maryland School of Medicine in February, 1972.

In contrast in urban areas of our own country, where absence of medical care is unusual, studies of effectiveness must compare some new form of care (often called comprehensive) with average available care (albeit often fragmented, episodic and uncoordinated as it is). There are few people with no care in America today. We like to think that medical care does something for people and I doubt that anyone could or should do a study comparing no care with care. At best one can only study different types of care with resultant diminished chance of showing changes. But the methodological problems of such studies are difficult. Random assignment of patients to two groups is unusual and it is very hard to keep an experiment going for the three to five years minimum necessary to show changes. Measurement of end results is also not easy. There are a few studies, however.

In one such study, we were able randomly to assign indigent families to a comprehensive care program and to maintain a control group who received care from emergency rooms and scattered other sources. After three years there was no difference in the mortality nor prevalence of disease in the two groups.⁴

In another study, the “welfare medical study” in New York⁵ carried out by C. H. Goodrich and G. S. Reader, there was also no difference in mortality or

morbidity among the aged after the experimental group had received high quality care at New York Hospital and the control group had received only fragmented services at a variety of sites. Still a third negative bit of data is the fact that for all our curative care, longevity for men who reach 50 years in the United States has not changed for half a century.⁶ Average life span has increased during this period only because infant mortality has been reduced thereby increasing the average age of death.

In contrast to these unsuccessful global attempts to improve health through medical care, it should be possible in selected illnesses to show the benefits of medical care. But even that is not easy! A recent report of a well controlled but small study compared home treatment of myocardial infarction with care in a hospital intensive care unit and showed no difference⁷—a bit shaking to us clinicians.

One of the problems of proving the benefits of overall care is the large population needed.⁸ For example, to show a 7 per cent change in child mortality (a statistically significant change) one would have to study 6.25 million children. But in spite of all these problems, occasionally studies have shown positive results. Mortality of hospitalized patients with selected illnesses was found to be lower in teaching as compared to non-teaching hospitals in Britain in a study by J. A. H. Lee, *et al.*^{9,10} Infant mortality has also been shown to be somewhat responsive to new forms of organization and delivery of care in H.I.P. groups compared to non-H.I.P. in New York¹¹ and in areas of inner cities where maternal and infant care programs have been introduced compared to other similar areas of these cities without such programs. These studies are subject to considerable criticism on methodological grounds, however. On a national scale there is evidence that input of medical care plus all other factors do affect infant mortality. Infant mortality, which had decreased by only 5 per cent in a decade (1956-65), dropped from 24.7 in 1965 to 19.8 in 1970 (20 per cent in five years)—a period when several special programs were introduced to deliver better maternal and child health care. But we are forced to look very long and hard to find evidence that medical care makes much difference to mortality or morbidity (i.e. presence of disease). When we look at the level of human functioning with disease the picture is a little brighter.

Most impressive are a few well designed studies, such as the one by C. E. Lewis and B. A. Resnick,¹² which demonstrated that one can improve function of patients. In this study nurse clinicians were able not only to deliver most of the care to adult patients with chronic illnesses such as hypertension, diabetes and arthritis, but these patients actually had less days of loss of work, less bed days, than a control group managed by a physician.

In the absence of our ability to show much reduction in death, disease and only occasionally in disability as a result of medical care, most of us have turned to measure other factors that we felt might be more responsive to care—costs, utilization of services such as hospitals,

office visits and compliance with preventive or curative regimens. Here the evidence that different types of medical care have different effects is much better.

In the Boston study mentioned above⁴ we did carry out a carefully controlled trial with random assignment and blind assessment of data. The significant increase in receipt of preventive services, reduction in costs of laboratory and prescription medications, hospitalizations, operations and illness visits were all what we had predicted.

Likewise in Rochester E. Charney and his colleagues have been studying the effectiveness of our neighborhood health center introduced into a black poverty area. Here we have a comparison—although not a control group—another, physically separate black ghetto of approximately the same size and socio-economic status where to date there is no comprehensive care medical program. Again we have not been able to show any differences in mortality or morbidity, but there have been other important changes. Emergency room visits have been reduced for children by 30 per cent,¹³ and hospitalizations for children have been reduced by about 30 per cent among the users of the health center. All of the reductions occurred in the respiratory-infectious illnesses group—those conditions for which early medical care and office and home management could be expected to make a difference. Surgical admissions actually increased as correctable conditions such as hernias, squints, and others were discovered.

Another micro-study illustrates the effectiveness of certain aspects of health care. At Yale J. K. Skipper and R. C. Leonard¹⁴ studied several physiological measures in children undergoing tonsillectomy and adenoidectomy. In the experimental group open discussion was carried out by a special nurse and the child before operation. The interesting finding was that compared to a control group of children who went through the usual procedure at Yale, New Haven Hospital, the rate of return of temperature to normal and reduction of nausea, vomiting and blood pressure were significantly greater in the experimental group. Yes, there is some proof that comprehensive, compassionate and skilled care has beneficial results!

In sum, we can say that there is not much evidence that illness care (which is what most medical care consists of) reduces mortality or morbidity very much. When well organized, it can reduce utilization of expensive facilities such as hospitals and emergency rooms and can reduce other costs such as laboratory and pharmacy without any measurable difference in health status. In other words, the effect of illness care after a point produces only marginal gains in health.

I need to make perfectly clear that I am well aware that we do have some data on the effectiveness of specific aspects of curative medicine—penicillin for pneumonia, antimicrobial treatment of meningitis, drug therapy for essential hypertension and a few other conditions that have been shown by controlled clinical trials to be positively affected by modern therapy. And I certainly do not wish to belittle the very important effects of our role as relievers of pain and distress. Individuals

and society need someone who provides hope by not giving up when the outcome is death. They need the comfort that there is access to such people as physicians even for conditions that will be self-limiting. Medicine satisfies a deep human need for someone else to provide help. I need also to make clear that I, as a clinician who has spent my entire professional life caring for children and their families, like to practice medicine. I am not disillusioned, bitter or tired of practice. But I also believe that we need to be humble about what we clinicians accomplish and raise our sights a bit to see if there may not be other things that we or someone in society could do to improve health much more than we are doing today.

As René Dubos has described so magnificently in *Mirage of Health*,¹⁵ the great advances in health in the 18th and 19th centuries were largely the result of social reforms that alleviated some of the pollution, dirt, poor housing and crowding, and malnutrition that had come from the industrial revolution. The fact that in the past 50 years center stage in the promotion of health has been held by the laboratory scientist should not blind us to the fact that he was not there throughout the period of most rapid improvement in health. As Dubos, a microbiologist states, “. . . the monstrous specter of infection had become but an enfeebled shadow of its former self by the time serums, vaccines and drugs became available to combat microbes. Indeed many of the most terrifying microbial diseases—leprosy, plague, typhus, and the sweating sickness, for example—had all but disappeared from Europe long before the advent of the germ theory.” To go on in Dubos’ words, “When the tide is receding from the beach, it is easy to have the illusion that one can empty the ocean by removing water with a pail. The tide of infectious and nutritional diseases was rapidly receding when the laboratory scientist moved into action at the end of the past century.”

David Mechanic, who expresses so many things so well, said that “medicine has three principal tasks: (1) to understand how particular symptoms, syndromes or disease entities arise, either in individuals or among groups of individuals; (2) to recognize and cure these or shorten their course or minimize any residual impairment; and (3) to promote living conditions in human populations which eliminate hazards to health and thus prevent disease.”¹⁶ The first of these tasks has generally been the province of biomedical research, and second of curative medicine and the last of public health and social medicine. The time is now at hand to join these three and to move into what I like to call the boundaries of health care.

The problem is simply stated. Where do health services end and other human services begin? Or, what factors affect health? The answers are far from clear. Let me first discuss the evidence.

II. SOCIAL AND ENVIRONMENTAL FACTORS EFFECT ON HEALTH

On a superficial level it is easy for everyone to accept that the way we live, our diet, our pace of life, our housing, our political and social structure, all contrib-

ute to health—perhaps sharing only with our genes predominance as the factor most responsible for our state of health. In comparison, what we as doctors do for people is rather insignificant. Let me spend just a few moments documenting this bold statement since it is said with a good deal more conviction that the facts often allow.

A. *Lead poisoning* is an easy example with which to start. Most lead poisoning in children results from ingestion of paint from housing with high lead content paint. The outcome of therapy, once symptomatic poisoning occurs, is bad—mortality and especially late intellectual morbidity are high.¹⁷ We can now diagnose body lead burdens above normal before symptoms appear and have fairly good chelating agents to accelerate its elimination, although we still do not know the long term consequences of asymptomatic lead burdens. But the poisoned child usually must remain in his same environment where he will continue to ingest lead. To date no cure for his desire to eat paint has been found to be successful. We must remove him from the lead. Even if we move him, however, another family with a small child is likely to move into the same house and become poisoned. Getting landlords and even parents to remove the paint from the housing has been disappointing—it is costly, time consuming and, with absentee landlords and poorly prosecuted housing codes, often impossible to accomplish. What is medicine’s role? Should it stop at treatment of the symptomatic child? At surveillance programs to detect and then treat the asymptomatic child? At getting social workers to move the child to a new home? At enforcing housing codes that may require the physician’s attendance in court if he pushes hard enough? At promotion of building new, safe housing for his community? At political action? At building the new housing himself? Clearly, each of us stops somewhere along this spectrum, usually before building the new housing himself. But until new housing has been built to replace all the old, or complete renovation of the old achieved, there will not be a solution to lead poisoning, any more than there was a solution to the problem of rickets until vitamin D was put in all milk.

B. *Environment*: A second example of the effect of physical environment on health is the nice work of H. Sultz and W. Winkelstein¹⁸ in my neighboring city of Buffalo. They showed that on days when there was high air pollution, there were also many more asthmatic children having acute attacks and coming to physicians. What role should we as clinicians play in air pollution control when it directly affects the health of our patients?

One of the most strikingly successful stories or such a role in altering environment by a physician is that of L. Colebrook, a surgeon in Britain, who became incensed that little girls were frequently severely burned by standing close to open hearth fireplaces and catching their clothes on fire. He collected data, presented it and got legislation passed requiring that every fireplace have a grate six inches in front of the fire.¹⁹ Such burns were significantly reduced as a result. As a clini-

cian he contributed more to health by this move than by all his surgical skills.

C. *Way of Life*: Let me now take a third example from adult medicine. L. Breslow and his colleagues in California have been engaged for some years in the Human Population Laboratory conducting a longitudinal study of the health status of a random sample of people and correlating this with various aspects of life style. He found that five factors in the way people live—the amount of sleep (less than six hours/night vs. 7-8), diet (erratic or regular), alcohol consumption (less or more than five drinks per day), regular exercise and tobacco use—were significantly associated with health.²⁰ Good health practices were associated with good health, and the relation was cumulative—the more of these factors that were “good” the better the health. In fact, people of 55-64 who had had these “good” habits had the health, as determined by their functioning, of 25-34 year olds who had these “bad” habits. To the epidemiologists there are, of course, many missing links. Most important to the clinician is the question, can such “bad” habits, if present, be changed and how; and if changed, will that alter a person’s health? For the purpose of this discussion the issues I would like to have you think about include, “Is it medicine’s job to educate people on how to sleep, eat, drink, exercise and smoke?” Is this within or beyond the boundary? The implications are that if we could change men’s function this much by altering life habits, we would accomplish more than through all of our therapeutic medicine.

D. *Schools and Health*: The next example I would like to mention is the role of medicine in schools. Traditional school health programs of “laying on of hands,” inspections, referrals without follow-up have been shown to be a waste of time.^{21, 22} But at the same time one quarter of the referrals of children to our pediatric clinic are now sent for “school learning problems.” We find very few traditional medical problems among such children. But the suffering of the child and family with such problems is still just as real, and the management requires that we alter the child’s environment—the school and the home. We have been quite unsuccessful, even after doing rather complete work-ups in the clinic, if we only make recommendations or treat with drugs. When we have moved out of our offices into the schools, we have achieved greater success. We need to join with teachers to help them understand how children grow and develop, with psychologists to understand how they learn, and sociologists to learn how the organization of the school affects learning. While the data to support the effectiveness of such new programs are not all in, we as doctors either have to decide that we do not have anything to offer such parents and children or we have to join forces with other professions to seek solutions to the problems by crossing the boundaries of traditional health services.

The schools also offer remarkable settings for health education to achieve more healthy patterns of living that may then affect health. The boundary between

medicine and education is not difficult to accept, but few of us have crossed it.

III. POPULATION VS INDIVIDUAL HEALTH CARE

Most of these examples could be thought of as in the range of traditional public health—that is population medicine—and the clinician would be quite correct to say that the boundary problem is largely one between population medicine, where responsibility for such things as housing, group health in schools and community wide health education is the province of the public health physician, while the provision of curative medicine of individual patients is his domain.

One of our own studies²³ illustrates that the problem of boundaries exists even for the clinician dealing with individuals. For some time we have been interested in the clinical observation that family-life stress seemed to be positively related to illness and also to the timing of seeking health care related to such stress. We have studied two types of family stress—long term or chronic, such as poverty, divorce, poor housing, unemployment, and short term, such as quarrels in the family, deaths in near relatives, loss of jobs, moves and interpersonal problems outside the family. As part of our system for monitoring the state of health of children in our area, we selected a random sample of over 500 families with children from Monroe County, N.Y., and interviewed the mother about illness in the family, their use of health care, and long term stress, and also we asked her to keep a diary for 28 days covering the same topics. Long term or chronic stress is very strongly associated with illness—in fact it accounts for as much as 20 per cent of all illness in families with children. Likewise short term stress has a strong association with illness, but little over-all relation to when people seek health care. There are interesting and important differences in the relation of stress (controlling for the amount of illness) and where care is sought. Telephone, emergency room, and OPD contacts are two to three times more likely if there is family stress, while office visits show no difference.

There is a considerable body of other data in this field of stress and illness. L. E. Hinkle’s²⁴ documentation of the greater occurrence of illness in workers in a telephone company at times of stress, and a study by R. H. Rahe, I. D. McKean, and R. J. Arthur of navy men’s greater illness at times of life changes (moves, deaths of close relatives, job changes)²⁵ give credence to our view that life stress is an important cause of physical illness.

The important point is again the boundary problem. If this type of family-life stress and life change is a major factor in causing illness and in determining when and where people seek care, what should be the physician’s role in helping families to avoid or learn to cope in more healthy ways with stress? What is the physiologic pathway by which such stress works its havoc? What could social changes, such as income maintenance, or various educational efforts, such as operant conditioning (to teach families how to manage life

crises without the stress that leads to illness), do to improve health? What should be the doctor's role in these boundary problems? Should we become engaged in these areas? I think it is clear that, as a society, we must find ways to manage boundary problems if we are to improve health. As physicians we do have another reason for involvement.

G. Caplan many years ago proposed the crisis intervention theory.²⁶ In brief, he postulates that at these times of crisis, people are more amenable to changing ways of life that are unhealthy than at more stable times. If this is so, and we obviously need data to prove or disprove it, then crisis-related illness and crisis-related use of health services bring the clinician into the middle of social medicine.

By working in these boundary areas it seems likely that we will contribute more to health than we will by sticking purely to our curative, traditional medical care. Another important facet of the boundary problem is the plight of developing countries. They have generally adopted western curative medicine, a relative luxury. Countries with limited resources might do well to limit their investment in curative medicine and invest more extensively in the boundary areas.

IV. BARRIERS TO WORK IN BOUNDARY PROBLEMS

What are the problems or barriers in moving into these boundary areas? Clearly one of the problems is the lack of data on the causal chain from social factors to physiologic change, to disease, and the lack of studies of the effectiveness of any proposed intervention. It is a special role of academic medicine, in collaboration with practitioners, to develop such data.

A second major barrier is the current constricting atmosphere that results from our mania for efficiency in health services. All new financing plans for illness services, such as the Health Maintenance Organizations, encourage limiting the time and effort of health care personnel to as little as the public will tolerate, rather than encouraging them to take on new tasks—especially if these new tasks may not result in improved health for many years. We are clearly in danger of exchanging the short term goal of lowered costs for the longer term effect of better health. Physicians working in prepaid programs with an annual capitation fee will think twice about spending time to deal with school learning problems, housing problems to eliminate lead poisoning, lengthy court proceedings to place battered children or crisis intervention to reduce stress.

In our current enthusiasm for efficiency many critics have lost sight of what is the essence of medicine—an open door for distressed people to enter, and improved health. The role of social-psychological distress is so great in the whole care process that I doubt that much of it will be solved with technological means, such as automated multiphasic screening to reassure the “worried well.” Health will more likely be improved by utilizing additional people in the caring process, such as nurse practitioners and family counselors to help families deal with these problems of living, than by such technological devices.

A third barrier is our reluctance and lack of experience in working with other professions. Clearly the boundary areas are not the province of any one group. Our academic institutions and our training set up departmental and attitudinal barriers to effective collaborative efforts.

A fourth barrier is man's lack of future orientation or deep concern about prevention. As Dubos said,¹⁵ “. . . men as a rule find it easier to depend on healers than to attempt the more difficult task of living wisely.” He goes on to point out that in Greek mythology Hygieia, the goddess of health, was always pictured as subservient to Aesculapius, the god of healing. It is clear that a great deal of attitudinal change must occur before we can effectively work in these boundary areas.

V. THE FUTURE

For the present, general medical care programs should not pay for these as yet unproven services. The immediate short term goal of health services is to meet the public demand for equity of access at reasonable cost. But we must be honest with the public that provision of such traditional curative services will not greatly affect the outcome or health of our people. But somewhere in our social system, and I believe that somewhere is in the university, there must be some groups who are more future oriented, who look ten to 20 years ahead, and who seek to explore the boundaries of health services in an effort to improve quality and understand what works in these poorly understood boundary areas and why. We must be careful not to assume arrogantly that we as physicians know what is best for people nor to decide by ourselves what the boundaries are to be. In the long run society will decide this. As E. Friedson has so eloquently said in his book *Profession of Medicine*,²⁷ “. . . the public should be brought into this process much more than it has. In the past what was once labelled the province of religion is often now in the medical domain.” There is no reason why what is now in medicine's province will remain there forever, anymore than it did with religion. Certainly medicine must advance in technology, but I believe at this moment we need to provide an opportunity for some people in medicine who, together with other disciplines, can carry out carefully controlled studies of the effects of intervention in these social boundary problems.

But we must also try to avoid the twin perils of too constricted a view and a too global one. At age 45 Metchnikoff changed his interests after a distinguished career in microbiology to focus on the global effort he called “orthobiosis,” which did not get very far. There is clearly the danger of adopting too broad a point of view. It is the danger of substituting meaningless generalities and weak philosophy for the concreteness of exact knowledge.

Perhaps the major thing medicine has to contribute is the ability to meld biology and social sciences—drawing people from both disciplines to work on the complex problems of social and family life and how they affect health. We and society may then end up by developing new helping groups or professions that actu-

ally deal with or deliver the care at these boundaries. But at the moment my medical chauvinism leads me to believe that physicians have a special role. They are often more acceptable as agents of change. They do have access to methods for studying the physiologic consequences of environmental manipulation, and they are highly acceptable to people in distress.

The boundaries of medical care offer exciting challenges to the future oriented biosocial physician. By successful blending of social and biologic research we may finally, as physicians, contribute to improved health and not merely to the production of health services.

ACKNOWLEDGMENT

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PLAN DEVELOPMENT - CITIZEN INVOLVEMENT

During February and March, 1974, more than 1700 copies of the attached letter and questionnaire were sent to the individuals and groups listed. Over 400 positive replies were received with respondents checking an average of four to five categories for which they wished to serve as resources.

Copies of draft portions of the Plan were sent to these individuals and groups for review of the categories they checked as follows:

Public Health - received Prevention and Public Health portions of Health Services section, and Health Manpower section

Home Health - received Home Health portion of Health Services section

Ambulatory Care - received Facilities section, Health Manpower section, and Cost and Emergency portions of Health Services section

Emergency Care - received Cost and Emergency portions of Health Services section

Acute Care - received Facilities section, Cost and Emergency portions of Health Services section, and Health Manpower section

Convalescent Care - received Facilities section

Chronic Care - received Facilities section

Health Education for School Age Persons - received Health Education portion of Health Services section

Health Education for Adults - received Health Education and Utilization portions of Health Services section

Health Manpower Education - received Health Manpower section and Prevention portion of Health Services section

Housing - received Housing portion and Public Establishments and Institutions portions of Environmental section

Occupational Health - received Occupational Health, Radiation, and Product Safety and Home Injury Control portions of Environmental section

Nutrition - received Food Protection and Nutrition portions of Environmental Section

Air Quality - received Air Quality portion of Environmental section

Land Use - received Land Use portion of Environmental section

Water Quality - received Water Quality portion of Environmental Section

Pesticides - received Pesticides and Vector Control portion of
Environmental section

Solid Waste - received Solid Waste portion of Environmental section

Noise Pollution - received Noise portion of Environmental section

Mental Health - received Mental Health portion of Health Services
section

The returns to CHP on these requests for review and comment ran about 25%.

LETTER REQUESTING INPUT

Dear

The Comprehensive Health Planning program in Montana has been criticized during the past few years for not receiving adequate input from segments of our population, both consumer and provider, regarding information and advice upon which the development of a state plan for health can be based. This letter is an attempt to meet that criticism and receive more input than has been possible in the past.

The Comprehensive Health Planning program is beginning to put together the first draft of the State Comprehensive Plan for Health. Within the next few months we will need advice on a number of specific topics usually included under the general heading of "health". We will need a list of individuals and groups interested in these specific areas to whom we can submit rough draft work for review and comment. In addition we will need advice relating to areas which we may inadvertently be overlooking. Your input will be seriously considered by our subcommittees, staff members, and finally the State Advisory Council. The target date for the first edition of the plan will be June 30, 1974. The first edition will be anything but complete. It will be a working document which will be changed and added to when necessity arises and conditions change. Your input would be important.

Attached is a list of broad health areas. Please check those which you think you would be interested to serve as a resource person. As concerns arise and as these sections of the health plan are developed, the CHP staff will contact those who have responded. Requests for information will be specific. Contacts will usually be made by phone and/or mail though it is foreseen that personal interviews or the eventual convening of groups to discuss issues may be necessary on occasion.

Thank you for your time and consideration.

Sincerely,

Robert R. Johnson, Administrator
Comprehensive Health Planning

RRJ:las

Enclosure

QUESTIONNAIRE REGARDING INTERESTS

Yes, I/we would like to furnish CHP with information and suggestions upon request.

Individual or Group

Contact Person (for Groups)

Address

Phone Number

The categories for which we would like to serve as a resource are checked below:

Specific areas of interest (e.g., Adminis-
tration, manpower, research, services, etc.)

____ Public Health _____
____ Home Health _____
____ Ambulatory Care _____
____ Emergency Care _____
____ Acute Care _____
____ Convalescent Care _____
____ Chronic Care _____
____ Health Education for School Age Persons _____
____ Health Education for Adults _____
____ Health Manpower Education _____
____ Housing _____
____ Occupational Health _____
____ Nutrition _____
____ Air Quality _____
____ Land Use _____
____ Water Quality _____

Please return to: Comprehensive Health Planning
State Department of Health and Environmental Sciences
Helena, MT 59601
By: March 15, 1974

Specific areas of interest (e.g., administration, manpower, research, services, etc.)

_____ Pesticides _____
_____ Solid Waste _____
_____ Noise Pollution _____
_____ Mental Health _____
_____ Other _____

RECIPIENTS OF LETTER AND CHECK LIST

M.D.'s

1. All except Yellowstone, Cascade, Missoula, Lewis & Clark, and Silver Bow where a 20% sample was drawn.
2. Montana Medical Association.
3. All component medical societies.
4. Board of Medical Examiners.

Nurses

1. All public health and school nurses.
2. Director of Nursing, all hospitals.
3. Montana Nursing Association.
4. All district organizations, MNA.
5. Montana State Practical Nurses Association.
6. Board of Nursing.
7. All R.N. training programs.

Hospital/Nursing Home Administrators

1. All.
2. Montana Hospital Association.
3. Montana Nursing Home Association.
4. Board of Nursing Home Administrators.

Sanitarians - All.

Medical Technologists

1. Montana Society of Medical Technologists.
2. 20% sample State Department of Health and Environmental Sciences list of Persons Employed In Montana to Perform Clinical Lab Tests, 1973.

Dentists

1. 20% sample.

2. Montana Dental Association.
3. Board of Dental Examiners.

Radiologic Technologists - Montana Society of Radiological Technologists.

Pharmacists

1. Montana Pharmaceutical Association.
2. Board of Pharmacists.

Chiropractic Physicians

1. Montana Chiropractic Association.
2. Board of Chiropractors.

Optometrists

1. Montana Optometric Association.
2. Board of Optometrists.

Osteopathic Physicians

1. Montana Osteopathic Association.
2. Board of Osteopathic Physicians.

Veterinarians - Board of Veterinarians.

Physical Therapists - Montana Physical Therapy Association.

Psychologists

1. Montana Psychological Association.
2. All licensed psychologists.
3. Board of Psychologist Examiners.

Social Workers - 20% sample Montana Chapter of NASW.

Emergency Medical Technicians - All in smaller towns and one out of five in larger towns.

Podiatrists - All licensed.

Dieticians

1. All members Montana Dietetic Association.
2. All home extension agents with Cooperative Extension Service.

Indian-Related Organizations

1. All Tribal Council Chairmen.
2. All Indian Alliances (8).
3. Indian Health Service.
4. Bureau of Indian Affairs.

Places

1. Family planning clinics
2. Mental health centers, mental hygiene clinics - all professionals.
3. Home health agencies.
4. Veterans Administration Hospital - Fort Harrison.
5. Alcoholic treatment facilities and programs.
6. SOS Health Center.
7. Senior citizens centers and organizations.
8. Easter Seal Rehabilitation Center.
9. Montana Center for Handicapped Children.

Other Groups

1. Montana State Low-Income Organization.
2. Montana Welfare Rights Organization.
3. Montana Chapter National Association for Mental Health.
4. Montana Association for Social Concerns.
5. Mountain States Regional Medical Program.
6. USDA Food and Nutrition.

7. SRS Commodity Distribution.
8. Office of the Superintendent of Public Instruction
Home Economics Education, School Food Service.
9. American Red Cross.
10. American Cancer Society, Montana Division.
11. Friends of the Earth.
12. County Extension Service - MSU.
13. Top eleven health insurers.
 - a. Blue Shield
 - b. Blue Cross
 - c. Travelers
 - d. Bankers Life
 - e. Aetna Life and Casualty
 - f. Prudential
 - g. Bankers Life and Casualty
 - h. Pennsylvania Mutual Life
 - i. Mutual of Omaha
 - j. American Republic
 - k. New York Life
14. Unions
 - a. Barbers and Beauticians Local #581
 - b. Butte Miners Union #1
 - c. Electricians Union Local #768
 - d. IBEW Local #768
 - e. I B of Pulp, Sulphite and Paper Millworkers
 - f. International Association of Machinists Local #1046
 - g. International Union of Operating Engineers
 - h. Laborers International Union of North America Local #273
 - i. Laborers Union Local #187
 - j. Lumber and Sawmill Workers Union
 - k. Meat Cutters Local #242
 - l. Montana State Council of Teamsters
 - m. Montana State AFL-CIO
 - n. Retail Clerks Local #684
 - o. United Association of the Plumbing and Pipe
 - p. United Steelworkers Local 16A
 - q. United Steelworkers Local #72
 - r. United Steelworkers Local #834
 - s. Smeltermans Local #6002

Goal 1: A system which assures that all levels of health care are accessible to all Montana citizens.

Related Objectives:

Health Services Objective A.1, p. 42
Health Services Objective B.1, p. 49
Health Services Objective C.1, p. 52
Health Services Objective D.1, p. 55
Health Services Objective D.2, p. 57
Health Services Objective E.2, p. 62
Health Services Objective E.3, p. 63
Health Services Objective F.1, p. 72
Health Services Objective F.2, p. 74
Health Services Objective G.1, p. 77
Health Services Objective H.1, p. 80

Health Manpower Objective A.1, p. 87
Health Manpower Objective A.2, p. 89
Health Manpower Objective B.1, p. 94
Health Manpower Objective B.2, p. 95
Health Manpower Objective C.1, p. 101
Health Manpower Objective D.1, p. 103

Health Facilities Objective A.1, p. 111

Environmental Health--State and Local
Government Objective 1, p. 128
Environmental Health--State and Local
Government Objective 2, p. 130
Environmental Health--Solid Waste
Objective 1, p. 158

Indian Health Services Objective A.1, p. 221

Economics and Health Care Objective B.4, p. 232
Economics and Health Care Objective B.6, p. 237

Goal 2: A system for allocating health care resources which prevents unnecessary and costly duplication and provides services where needed.

Related Objectives:

Health Services Objective B.1, p. 49
Health Services Objective D.1, p. 55
Health Services Objective E.1, p. 61
Health Services Objective G.1, p. 77
Health Services Objective H.1, p. 80

Health Manpower Objective C.1, p. 101
Health Manpower Objective E.1, p. 107

Health Facilities Objective A.1, p. 111
Health Facilities Objective B.1, p. 117
Health Facilities Objective B.2, p. 118

Indian Health Services Objective A.1, p. 221

Economics and Health Care Objective A.1, p. 225
Economics and Health Care Objective B.6, p. 237

Goal 3: A system which places strong emphasis on preventive health services.

Related Objectives:

Health Services Objective A.1, p. 42
Health Services Objective A.2, p. 44
Health Services Objective A.3, p. 45
Health Services Objective A.4, p. 46
Health Services Objective A.5, p. 47
Health Services Objective B.1, p. 49
Health Services Objective C.1, p. 52
Health Services Objective D.1, p. 55
Health Services Objective D.2, p. 57
Health Services Objective G.1, p. 77
Health Services Objective H.1, p. 80

Economics and Health Care Objective B.6, p. 237

Goal 4: A system for financing health care which assures that no one will be denied services.

Related Objectives:

Health Services Objective A.5, p. 47

Health Services Objective F.1, p. 72

Economics and Health Care Objective B.1, p. 229

Economics and Health Care Objective B.2, p. 230

Economics and Health Care Objective B.3, p. 231

Economics and Health Care Objective B.4, p. 232

Economics and Health Care Objective B.5, p. 233

Economics and Health Care Objective B.6, p. 237

Economics and Health Care Objective B.7, p. 240

Goal 5: The highest quality of health care.

Related Objectives:

Health Services Objective D.2, p. 57

Health Manpower Objective B.2, p. 95

Economics and Health Care Objective B.8, p. 242

Goal 6: A system of health planning which assures participation by all sectors of the population affected by it.

Related Objectives:

Health Services Objective B.1, p. 49
Health Services Objective D.1, p. 55
Health Services Objective D.3, p. 59
Health Services Objective E.2, p. 62
Health Services Objective E.3, p. 63
Health Services Objective F.1, p. 72
Health Services Objective F.2, p. 74
Health Services Objective G.1, p. 77

Health Manpower Objective C.1, p. 101
Health Manpower Objective D.1, p. 103

Health Facilities Objective B.3, p. 119
Health Facilities Objective C.1, p. 121

Environmental Health--State and Local
Government Objective 2, p. 130
Environmental Health--Solid Waste
Objective 2, p. 161
Environmental Health--Water Objective 1, p. 136
Environmental Health--Water Objective 4, p. 144
Environmental Health--Product Safety
Objective 1, p. 156

Goal 7: A social environment which is conducive to physical and mental health.

Related Objectives:

Health Services Objective A.2, p. 44
Health Services Objective A.3, p. 45
Health Services Objective B.1, p. 49
Health Services Objective D.2, p. 57
Health Services Objective G.1, p. 77
Health Services Objective H.1, p. 80

Health Manpower Objective B.1, p. 94
Health Manpower Objective C.1, p. 101
Health Manpower Objective D.1, p. 103
Health Manpower Objective E.2, p. 108

Health Facilities Objective A.2, p. 112

Indian Health Services Objective A.1, p. 221

Environmental Health--Housing Objective 1, p. 147
Environmental Health--Housing Objective 3, p. 150
Environmental Health--Noise Objective 1, p. 167
Environmental Health--Noise Objective 2, p. 168
Environmental Health--Occupational Health
Objective 1, p. 164
Environmental Health--Occupational Health
Objective 2, p. 165
Environmental Health--Product Safety
Objective 1, p. 156

Goal 8: A physical environment which is conducive to health and safety.

Related Objectives:

Environmental Health--State and Local Government
Objective 1, 128
Environmental Health--State and Local Government
Objective 2, p. 130
Environmental Health--Water Objective 1, p. 136
Environmental Health--Water Objective 2, p. 138
Environmental Health--Water Objective 3, p. 139
Environmental Health--Water Objective 4, p. 144
Environmental Health--Housing Objective 1, p. 147
Environmental Health--Housing Objective 2, p. 149
Environmental Health--Housing Objective 3, p. 150
Environmental Health--Public Establishments
Objective 1, p. 153
Environmental Health--Public Establishments
Objective 2, p. 154
Environmental Health--Product Safety
Objective 1, 156
Environmental Health--Solid Waste Objective 1, p. 158
Environmental Health--Solid Waste Objective 2, p. 161
Environmental Health--Occupational Health
Objective 1, p. 164
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A Look at the Physician's Assistant

The functions and role of the physician's assistant are compared to those of a graduate of a baccalaureate degree nursing program by this teacher in a program which prepares physician's assistants.

KATHLEEN G. ANDREOLI

A nurse giving exercise therapy to an arthritic patient may resemble a physical therapist; a nurse teaching the cardiac patient a low sodium diet may resemble a dietitian; a nurse discussing home care or child support with a handicapped patient may resemble a social worker. Yet, nurses have already identified their differences from these professionals. But now a new health worker—the physician's assistant—is here whose functions appear, at times, to overlap with those of nursing. And, thus, there is concern about who is doing what work and who assumes what authority in patient care.

Why a New Worker?

In today's system of health care delivery, there is an acute shortage and inefficient use of physicians, particularly physicians giving primary care. Medical care in the U.S. is expensive and poorly distributed (1). Many physicians have congregated in the cities and suburbs, thus decreasing the number of physicians

available to the rural population. Furthermore, many physicians have withdrawn from clinical practice into full-time educational, research, administrative, and political positions. In the country as a whole, the present ratio of 164 physicians involved in patient care per 100,000 population is less than the minimal number of physicians the American Medical Association notes as actually needed(2).

This shortage of health personnel is not peculiar to physicians, however. The shortage of nurses has also assumed crisis proportions(3). Nursing has attempted to solve its shortage by trying to give nursing care through others. It has been found that certain kinds of health services can be performed by sub-professional groups and performed more skillfully(4). Consequently, in nursing we have seen the evolution of the licensed practical nurse, the nurse's aide, the patient care technician, and so forth. In addition, better utilization of nursing skills has come from delegating non-nursing functions to others.

Task analyses have been performed on physicians' activities, and the results reveal that many of their duties can be delegated successfully to a person with less medical training and not significantly increasing the risk of either adversely affecting the patient's health or comfort (5). Thus, the physician assistant concept has evolved as a possible solution for the physician shortage. This worker was conceived as being trained to perform selected physician activities and to work under physician supervision.

In Alabama, the physician shortage is critical; the physician to population ratio is 76 per 100,000,

roughly 45 percent of the existing national ratio(2). Accordingly, the University of Alabama in Birmingham has accepted the responsibility of training physician's assistants, Type A, following the guidelines set forth by the American Association of Medical Colleges' Report of the Task Force on Physician's Assistant Programs, February 5, 1970 (6). This program is designed to train individuals over a 24-month period to work as a dependent worker with and under the supervision of a licensed physician.

Who Is He?

Specifically, the physician's assistant in our program is trained as a data gatherer. He obtains detailed patient histories; does complete physical examinations; collects specimen data through such intricate technical procedures as gastric analysis, venous and arterial punctures, lumbar punctures, pulmonary function studies, and electrocardiography; and does accurate routine patient analyses. In addition, the physician's assistant provides such patient care services as cast application and removal, superficial wound suturing, dressing changes, and laboratory studies during those hours the office is closed.

The physician's assistant also aids the physician by being an extension of the physician. For example, when the physician is in his office, his assistant can be in the hospital doing routine work-ups, narrative summaries, and can explain and perform many diagnostic procedures; in the office, he can add efficiency to the patient care system by collecting data for the physician before the patient sees the physician so that the actual physician-patient contact

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can be used in a more meaningful manner. In the home, the physician's assistant can detect disease, conduct preventive teaching, and aid in the routine management of invalid patients.

In contrast, the nurse prepared in the baccalaureate program at the University of Alabama is a liberally educated person as well as a competent practitioner. She coordinates and synchronizes medical and other professional and technical services that affect the patient and collaborates with physicians and other health workers in the care of patients. She gives skilled nursing care, supervises, teaches, and directs others who participate in such care. She identifies nursing problems, establishes priorities, and evaluates the results of nursing care plans. She shares responsibility for community health programs and continually evaluates nursing practice itself. In the absence of a physician, the professional nurse is expected to make independent sound nursing judgments in the care of patients and families.

Comparing Health Workers

A number of questions concerning the physician's assistant have been posed by nurses. These are some which are asked most frequently. Again, the physician's assistant described here is the worker which our program prepares.

What are the main differences between a nurse and a physician's assistant?

The characteristics of the nurse and the physician's assistant are not similar. The physician's assistant trainees are, by and large, older, educated for two or more years beyond high school and have two or more years of experience in patient related health service, whereas most student nurses are young, directly out of high school, and have little or no hospital experience.

In practice, a nurse has a broader education as well as a different emphasis in her patient care from

PATIENT RELATIONSHIPS OF STAFF NURSE AND PHYSICIAN'S ASSISTANT IN THE COMMUNITY HOSPITAL

	Nurse	Physician's Assistant
Prehospital admission	Usually no relationship	Becomes acquainted with patient when symptoms bring patient to doctor Participates in initial physical examination Performs diagnostic tests Assists in interpreting lab data Helps to prepare patient and family for hospital admission
Hospital admission	First acquaintance with patient and family Admits patient to ward Orients patient and family to routine	May come with patient and relate history to head nurse. Also review doctor's routine orders, planned tests, and procedures.
Hospitalization period	Observes for and prevents complications Identify and meet patient needs Contact other disciplines (with permission) contributory to patient's convalescence—chaplain, physical therapist, social worker, occupational therapist, and dietitian Help patient and family accept disease and plan for the future Constant bedside reassurance and contact	Rounds with doctor in A.M., alone, perhaps, in P.M. Perform specific tests or procedures approved by doctor Liaison between nurse and doctor immediate resource for patient background Writes doctor's orders on chart. These are countersigned by doctor who is ultimately responsible Complies with hospital routine and (under nonacute circumstances) the individual patient schedule as devised by the head nurse
Discharge	Preparation for discharge including patient and family teaching Public health referral to agency if appropriate	Discharge summary Follow-up office visits or home visits

Orders by the physician's assistant can be followed, says this nurse, because they are countersigned by the doctor

COMPARISON OF EDUCATIONAL PROGRAMS AT THE UNIVERSITY OF ALABAMA, BIRMINGHAM

	<i>Nursing</i>	<i>Physician Assistant</i>
Candidates' Sex:	Women (mostly)	Men (mostly)
Age:	17-	22-50
Background:	High School	2 yrs. college education 2 yrs. health experience
	36 months (4-year period)	23 months (2-yr. period)
	Didactic and practical	Didactic and practical
Curriculum:	English	Medical terminology
	Basic sciences (biology, physics, chemistry)	Basic sciences (microbiology, biochemistry, anatomy, physiology)
	Social sciences (history, political science, economics)	Social sciences (history, philosophy and ethics of medicine, community health)
	Electives (religion, art, music, philosophy, literature)	P.A. related sciences (laboratory medicine, surgery, clinical medicine, physical diagnosis, diagnostic procedures, growth and development, radiology, dentistry, psychosomatic medicine)
	Nursing related sciences (introduction to microbiology, anatomy and physiology, nutrition, and psychology)	P.A. rotations (medical in and out patient services, general surgery, pediatrics, OB-GYN, outside physician practices, elective medical specialties)
	Nursing major and rotations (pediatrics, obstetrics, medical-surgical nursing, public health, psychiatry, team nursing, history of nursing)	
Degree or certification:	B.S. in nursing, R.N. license	Certified by UAB Medical Center
Employment areas:	Hospital, physician's office public health agency, school of nursing, industry, community agencies, military service	Community—physician or group practice
Performance:	Independent, dependent	Dependent, independent

that of the physician's assistant. She is responsible for direct patient care and for the functioning, education, and evaluation of her team. The physician's assistant, however, is responsible to his physician and his patients. His education has prepared him to perform delegated "physician" activities, now done by the physician, which can involve the patient in hospitalized and nonhospitalized situations.

In addition, a license imparts interdependency to the nurse, whereas at present the physician's assistant is an unlicensed, dependent individual. (See box on page 711.)

In the health team hierarchy, who comes first—the nurse or the physician's assistant?

The location of the patient influences the status of the nurse and physician's assistant on the health team. In the hospital, the head nurse is responsible for the organization and delivery of patient care on her unit. That means a physician's assistant should arrange his routine tests to mesh with the plan set up for the patient. For example, during the patient's diagnostic period, a number of tests (x-ray, EKG, function studies, catheterization) may be ordered. The nurse arranges for these tests to be performed at the convenience of all involved. If the physician's assistant wishes to perform a nonemergency test, he works this out within the schedule already established by the nurse.

The nurse is able to interact with the physician's assistant as she does with dietitians and physical therapists and those in other disciplines involved in the care of this patient.

In the doctor's office, however, the physician's assistant is more familiar with the patient history, office routine, and follow-up. Here, the office nurse in our experience follows his directions. In either situation, the nurse and the physician's assistant work toward satisfying the needs of the patient. Hopefully, this is done with mutual respect for each individual's talents and skills.

Is it fair that a professional nurse's beginning salary is approximately \$8,000 a year whereas a physician's assistant's starting salary is \$10,000?

There are those who argue that while nurses have a more well-rounded basic preparation than the physician's assistants themselves have, nurses do not receive a salary which is comparable(7).

If the nurse and the physician's assistant's salaries are compared on an hourly basis, it will be noted that a physician's assistant earns less than a nurse. The physician's assistant works as much as 60 to 80 hours a week and is on call 24 hours a day. The majority of nurses work an 8-hour shift and those with home responsibilities are not looking for more than 40 hours per week.

How can a physician's assistant be qualified to do patient histories, physical examinations, laboratory tests, and patient teaching?

Since the physician's assistant is expected to perform a number of "physician" skills, he is educated and evaluated by physicians. During his training, the physician's assistant repeats these skills frequently, practicing them until he achieves satisfactory mastery. (See comparison of educational programs in box at the left.) These activities are conducted under physician supervision.

Is it legal for a nurse to follow "doctor's orders" written by a physician's assistant?

Yes, because the physician's assistant's orders are countersigned by the doctor who employs him. This is the same policy as a medical student's orders being signed by his instructor, the resident. The physician is responsible for those orders written by his assistant.

The nurse does have the prerogative of refusing to carry out an order whether written by a physician or a physician's assistant. Her nursing judgment assesses the clinical accuracy of the order.

Will physician's assistants be hired by hospitals to work on wards?

It is our intention that the physician's assistant will be hired by a physician. His duties will bring him to the patient wards as he follows his doctor. He may remain on the patient wards after the doctor has left to perform delegated procedures or talk with the patients and their families. If all the patients on a ward belong to the assistant's physician, this would simulate a ward staff position for the assistant.

Doesn't the physician's assistant practice in violation of some state medical practice acts?

Presently, the physician's assistant is, in most states, unlicensed. This creates uncertainties and possible legal dangers. Many health care providers believe physician's assistants should be licensed so their activity is not considered illegal(8).

In November and December 1971, the Duke University Physician's Associate Program surveyed all state legislatures by letter requesting copies of legislation on the physician's assistant. They reported that two basic types of regulatory systems affecting the physician's assistant and other allied personnel have been passed or are being actively considered by state legislatures. One is an exception to the state medical practice act and codifies the legally recognized right of the physician to delegate certain tasks to qualified non-physicians and provides that such personnel shall not be deemed to be engaging in the unlicensed practice of medicine. States which have enacted this provision are Arizona, Arkansas, Colorado, Connecticut, Delaware, Florida, Idaho, Kansas, New Hampshire, North Carolina, Oklahoma, Oregon, Utah, and West Virginia. The other basic type of legislation is specific and separate from the medical practice act and states the regulations in great detail. These states with specific acts are Alabama, California, Colorado, Florida,

Iowa, New York, Washington, and West Virginia. Thus, a total of 19 states have passed legislation directly bearing on the legal status of the physician's assistant.

Could a nurse train to be a physician's assistant?

Yes. The nurse's training fulfills the requirements of two years of college and two years of health experience. The nurses who have entered the physician's assistant program have been successful students. However, nurses applying to the program are screened and selected carefully. Since the shortage of nurses has assumed crisis proportions, it is not practical to deplete this reservoir of health personnel. If, however, a nurse is planning to function in a health care area where physician's assistant skills would enhance her contribution to the existing health needs, she is encouraged to apply to the program.

Nursing's Opportunity

Solutions to the problems in the health care delivery system are not easily found and some will raise controversy. Not only is there a need for more physicians and assistants to physicians, but there is also a need for nurses who can identify and assume more responsibilities in patient care.

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GUIDELINES FOR DETERMINING THE
NEED FOR SELECTED IN-PATIENT SERVICES

A limited number of highly specialized and costly health services should be organized and delivered on a regional basis. Services of this nature include:

- renal dialysis services
- radiation therapy
- rehabilitation medicine
- burn treatment centers
- cardiac catheterization services
- infant intensive care services
- open heart surgery
- intensive care and coronary care units

These services represent a substantial public investment in skilled personnel, elaborate facilities and expensive, highly sophisticated equipment. It is in the best interests of the community to insure through the comprehensive health planning process that regional services function efficiently and effectively, and are not unnecessarily duplicated. The substantial costs to the community for regional services compel a critical examination of all such services to insure that existing and proposed new services meet the test of community need on a regional basis. The costs of operating a service must be weighed against the social cost of failure to provide a service which is needed.

In planning for regional health services, the definition of "region" and its geographic limits will vary according to the particular regional service. Some are so highly specialized that they are needed by a relatively few patients each year, and thus require a substantial population base to justify their operation economically and qualitatively.

REGIONAL
SERVICES

Regional services should achieve certain minimum use levels, not only for efficient operation, but to insure high quality patient care. The specialized equipment and procedures involved in the delivery of regional services require experienced personnel who perform enough procedures to maintain their skills, and are thoroughly familiar with the service and the problems which may arise.

For these reasons, regional services should be provided only in medical complexes with the demand, resources and capability to serve as regional referral centers for the service. The general characteristics which distinguish regional referral centers from other hospitals include:

Demand--Facilities providing a regional service should have sufficient volume of consumer demand for the service to function efficiently at or above the minimum use level for that service. For the particular regional service, the facility should serve a geographically defined population base sufficiently large to generate the number of consumer demands at or above the minimum use level, based on known rates of incidence of demand for the service. Formal referral relationships should be established from related other hospitals to the regional hospital for patients requiring the regional service.

Resources--Facilities providing a regional service should have the needed physical accommodations and equipment with which to provide the service, as well as appropriate back-up services. If the regional services are less than fully reimbursed by third-party sources, including private insurance and public medical assistance programs, the facility should project the expected deficit for operating the service on an annual basis, and demonstrate how the deficit will be made up.

Capability--Regional services should be provided by appropriately educated and trained teams of health professionals and allied health personnel.

Regional services should not be provided by all hospitals. For efficiency, and to promote the highest level of patient care, regional services should be clustered in a relatively limited number of hospitals rather than fragmented among a large number of facilities providing only one or two regional services.

Flexibility should be retained in the development of guidelines for the organization and delivery of the regional health services, however, in recognition that advances in medical knowledge and technology may reduce the cost and complexity of some of these services to the point that they become services which should be available widely in many or all hospitals.

The following guidelines are available to assist any provider or community interested in the development or evaluation of such programs. The guidelines are not absolute. They may be changed if they are shown to reflect community need inaccurately.

Renal Dialysis*

Renal dialysis is a process by which waste products are removed from the body artificially when the kidneys are not functioning adequately. It is a very expensive process.

End-stage renal disease (ESRD) is that stage of renal impairment which requires dialysis and/or transplantation to maintain life or health.

Dialysis may be done because of acute conditions (acute dialysis) or because of ESRD (maintenance dialysis). Maintenance dialysis usually takes from six to eight hours, two to three days a week, per patient. One dialysis station can handle two patients if run a minimum of one shift a day, six days a week.

Limited care dialysis is regular maintenance dialysis on an out-patient basis in a facility where the actual dialysis procedure is performed by health professionals.

Self-dialysis is regular maintenance dialysis performed by a trained patient at home or within an out-patient facility. It is much less expensive than limited care dialysis.

The ideal and actual patient distribution by mode of therapy is roughly:

	<u>Actual</u>	<u>Ideal</u>
Transplantation	25%	70%
Dialysis	75%	30%
Within Dialysis:		
Patients trained for self-dialysis	15%	80%
Patients in limited care dialysis	85%	20%

The differences between actual and ideal are due in part to a disinterest in self-training by some physicians and patients, as well as certain financial incentives toward limited care dialysis. The availability of donor organs, and the constraints of patient choice are also factors which contribute to these differences.

A transplant center should generally serve a population base of at least two million, although some may be justified with a smaller population base contingent upon the referral population and pattern.

Federal guidelines recommend that limited care dialysis be within four hours' (two hours each way) travel from the patient's home.

*Information obtained from Comprehensive Health Planning Service, U.S. Department of Health, Education and Welfare.

Renal Dialysis in Montana

There are four health facilities which offer renal dialysis services in Montana.

St. Patrick's Hospital, Missoula.

The program at St. Patrick's Hospital provides acute dialysis only. They have no regular maintenance dialysis program.

St. Peter's Hospital, Helena.

St. Peter's has one dialysis machine and two patients receiving limited care dialysis three times a week. They plan to get another machine. Both patients currently on regular maintenance dialysis have tried self-dialysis but it has not been successful. They provide acute dialysis when necessary.

Columbus Hospital, Great Falls.

This was set up primarily as an acute program. There are currently two patients doing self-dialysis at home but who use the Columbus unit when they need help.

Billings Deaconess Hospital, Billings.

The program currently provides acute dialysis only but will have a regular maintenance program within a year. They also plan to have a training program for self-dialysis.

Mercy Hospital in Williston, North Dakota, provides emergency dialysis and is the most easily accessible facility to many persons living in northeastern Montana. The renal dialysis services in Spokane, Washington, are used by some patients from the northwestern section of Montana.

Guidelines

1. A kidney transplant center should not be set up in Montana.

Since Washington, Oregon, Utah, Minnesota and Colorado have health facilities which provide kidney transplant services, it is unlikely that Montana would be able to attract enough patients from the surrounding states to be able to justify such a service. Geographic location is not always a critical consideration in determining need for a transplant facility because:

- a. Transplantation, as opposed to dialysis, constitutes a single, concentrated medical care episode; and
- b. Follow-up of the transplanted patient, if performed by the transplant facility is usually necessary only on an episodic basis, or can often be adequately performed by an ESRD specialist near the patient's home.

- II. Facilities not presently providing renal dialysis services should not start operating one as long as the four hospitals with such programs continue them.
- III. No more than one of the four facilities should provide a self-dialysis training program in Montana.

(This is based on the HEW assumption that for a population of one million, there will be 50 new patients who have treatable end-stage renal disease per year. Self-dialysis training facilities should train at least 12 patients per year in order to be economically efficient.) The cost of setting up and maintaining a training program must be weighed against the cost of keeping patients on limited care dialysis who could otherwise be trained in self-dialysis.

Radiation Therapy

Radiation therapy refers to the use of ionizing radiation in the treatment of the cancer patient.

Cancer is the second leading cause of death in Montana. Radiation therapy, surgery and chemotherapy are the most effective methods in the treatment of cancer today. The choice of treatment method or combination of methods depends upon the site and form taken by cancer in a specific case.

With an incidence of 4.3 cases per 1,000 population, Montana can expect about 3,000 new cancer patients to be identified during a one-year period. Approximately one-half of these will need radiation therapy sometime during the course of their illness.

A cancer treatment center which will provide radiation therapy with higher megavoltage equipment than the cobalt units which are presently in several cities in Montana is being constructed in Billings.* The primary region to be served by the center will be the eastern half of Montana and the northern third of Wyoming. An average of approximately 25 to 30 patients is needed to financially support a center with the higher megavoltage units. It is anticipated that the average number of patients treated daily will reach 35 to 45 in the new center in Billings.

Guidelines

- I. No more than one cancer treatment center is needed in eastern Montana.
- II. A cancer treatment center with higher megavoltage equipment should be developed in Western Montana only if it can be expected to treat a minimum of 25 - 30 patients a day without causing the patient volume at the Cancer Treatment Center in Billings to fall below that level.

*Daigert, Fred A., M.D., A Feasibility Report, Development of a Regional Cancer Treatment Center at Billings, January, 1973.

Rehabilitation Medicine

Chronic illness and disease have assumed a greater importance in planning of health services and facilities, as a growing percentage of the population is found in the older age groups. These chronic and disabling conditions result in physical, social and emotional handicaps for large numbers of individuals, requiring a comprehensive and coordinated system of rehabilitation care.

Rehabilitation is a continuing process of restoring ill or disabled persons to the fullest degree of physical, mental, social, vocational, and economic usefulness of which they are capable, and to maintain them at those levels. The program involves a wide spectrum of services located in a variety of public and volunteer facilities and agencies coordinated to meet individual needs. Rehabilitation is required for those physical, social, and developmental disability conditions, such as chronic heart disease, birth defects, blindness, deafness, orthopedic defects, cerebral palsy, injuries, mental retardation, mental illness, alcoholism and drug dependence, which result in permanent or long-term impairment. Many handicapped persons are afflicted with multiple disabilities increasing their rehabilitation problems.

In Montana, there are 39,585 disabled persons. This means 11.73% of the population 16-64 years old is disabled.

The Department of Social and Rehabilitation Services, Rehabilitative Services Division, has a Rehabilitation Facilities Plan which is updated annually. The Plan inventories all rehabilitation facilities, identifies rehabilitation service deficiencies and lists priorities.

The Rehabilitative Services Division supports the satellite concept of facility development.

The 1973 Plan states that "A priority regarding Montana's rehabilitation facilities is the strengthening and expansion of current programs and facilities to a level at which competition from new but similar programs and facilities will not be devastating. Current programs and facilities which fall into this priority category are:

1. The presently existing rehabilitation work facilities.
2. The one existing comprehensive rehabilitation center in Missoula.
3. The joint program ventures with other agencies, especially those serving the developmentally disabled, the public offender (both youth and adults), the Public Assistance recipient, and the American Indian."

Guidelines

1. All planning and development of rehabilitation facilities and services for physically, socially, and emotionally handicapped persons shall conform to the appropriate regulations and recommendations of the

Rehabilitation Facilities Plan and the State Plan for Hospital and Medical Facilities Construction.

11. The establishment of a rehabilitation system shall be encouraged which includes satellite services in community hospitals and local agencies to assure follow-up, consultation and maintenance to meet the needs of handicapped persons.

Burn Treatment Facilities

Nationally, there are 75,000 burn injuries a year serious enough to require hospitalization.* Of the persons hospitalized, 10% receive treatment in specialized burn treatment facilities and 90% receive treatment in general medical-surgical or intensive care facilities. Treatment provided in burn treatment facilities results in a reduction in average length of stay of up to 50%.

Burn care facilities are classified as follows:**

Burn Program: At this level, the hospital has no specialized facilities or areas for burn care. However, a consistent plan for management of burn patients is implemented by an interested and experienced physician (or jointly by several physicians). It is assumed that at least 25 burns per year are treated. Fewer than 25 per year would not permit the staff to develop and maintain sufficient expertise in burn care.

Burn Unit: This denotes a burn program being conducted in a specialized facility which is used only for burns. It is assumed that this facility has at least four beds and that at least 35 burn patients per year are treated there. A limited amount of research and teaching may be present on an intermittent basis.

Burn Center: This denotes a larger burn unit, with special emphasis on research and teaching as well as patient care. The facility provides very intensive burn patient care which requires the support of the research and teaching staffs. It is assumed that the facility has at least six beds, and that at least fifty patients with burns are treated there per year.

Generally, burn care facilities develop as a progression starting with a burn program.

The mortality rate in Montana (3.9 per 100,000) for accidents caused by fires and flames is very close to the national average (3.7 per 100,000). Therefore, it can be assumed that it is appropriate to apply national guidelines to Montana.

Using a formula based on population, expected number of annual burn admissions and estimated degree of severity of burns, Montana is shown to have a need for a six-bed burn unit.*** A four-bed burn unit is the

*Hospital Survey Committee, Specialized Facilities for Burn Treatment, Philadelphia, PA, December, 1971.

**Irving Feller, MD, and Keith Crand, MSE, Planning and Designing a Burn Care Facility, Institute for Burn Medicine, Ann Arbor, Michigan: 1971.

***Ibid. Pages 7 - 9.

smallest that is considered to be practical. Presently, Montanans must leave the State to receive specialized burn treatment.

The critical resource to consider in determining whether or not a community can develop a burn program or unit is the availability of experienced personnel. Only one hospital in the United States provides advanced training for doctors to practice burn medicine.*

For more detailed information on the factors to consider when thinking about setting up a burn program, Planning and Designing a Burn Care Facility should be consulted. It is available on loan from the Division of Comprehensive Health Planning, Department of Health and Environmental Sciences.

Guidelines

- I. There is a need for a six-bed burn unit in Montana. Because of the complexity of developing a burn management program and staff, a burn program should be set up first even though Montana ultimately needs a burn unit.
- II. A burn unit should be located in Billings, Great Falls, or Missoula in order to assure necessary support services and personnel.

*Irving Feller, MD, and Keith Crand, MSE, Planning and Designing a Burn Care Facility, Institute for Burn Medicine, Ann Arbor, Michigan: 1971. p. 2.

Cardiac Catheterization

Cardiac catheterization is a diagnostic procedure. It has no direct therapeutic value.*

The cardiac catheterization procedure itself may take from two to four hours. The patient will generally have been admitted to the hospital the day before the procedure.

The American Heart Association** points out that while a large number of procedures does not in itself insure a high level of performance, a cardiac catheterization unit which operates only occasionally cannot expect to produce excellent results. It concluded that the minimum acceptable number is three procedures per week. The minimum number of procedures applies to infants and young children if the cardiac catheterization laboratory expects to perform procedures on patients in that age group.

The only health facility in Montana currently providing cardiac catheterization services is Billings Deaconess Hospital. They are presently averaging about two procedures a day. There has been a gradual increase in the number of procedures performed during the last half of 1973. Fifty-two procedures were performed in July, 1973, and seventy-two in December, 1973. In general, these are adult procedures, with less than 10% of the procedures being performed on children.

Guideline

1. Hospitals should initiate cardiac catheterization services only if the minimum guidelines of the American Heart Association can be met without reducing the number of procedures being performed at Billings Deaconess Hospital below the minimum recommended number.

*Hartman, Gerhard, Ph.D., J. Churchill Hindes and Douglas Wollard, "The Cardiac Catheterization and Surgical Center: An Implementation Feasibility Study" in Administration for the Effective Control of Heart Disease: Two Complimentary Studies, University of Iowa. 1973.

**American Heart Association, Standards for a Cardiac Catheterization Laboratory, 1970, 1972.

Infant Intensive Care

In order to reduce perinatal morbidity and mortality, a system for providing infant intensive care services in Montana is needed. The Bureau of Maternal and Child Health, Department of Health and Environmental Sciences, in conjunction with the Montana Chapter, American Academy of Pediatrics, is developing guidelines for determining need and standards for infant intensive and intermediate care units. So far, it has been determined that the need for infant intermediate care centers in Montana can be met by having centers in Billings, Great Falls, and Missoula. St. Vincent's Hospital in Billings and Deaconess Hospital in Great Falls presently have units.

Capabilities to transport an acutely ill newborn to an infant intensive care unit will be developed for transportation to comprehensive infant intensive centers outside the State.

A copy of a complete plan for Montana which states objectives and standards for infant intensive care and elaborates on the guideline for determining need is available from the Bureau of Maternal and Child Health.

Guideline

1. Infant care units should be developed according to the guidelines prepared by the Bureau of Maternal and Child Health Services in the Department of Health and Environmental Sciences.

Open Heart Surgery

Heart disease is the number one cause of death in Montana as it is in the United States as a whole. It has been estimated that 250,000 persons a year could benefit from the open heart surgical procedure known as the aortocoronary vein bypass.* It is difficult to predict the clinical status of cardiac surgery five to ten years hence, but there are indications that significant breakthroughs will increase the work load.

The only hospital in Montana in which open heart surgery is currently performed is the Billings Deaconess Hospital. The total number of procedures performed in 1973 was 53; however, the number will have increased to over 100 in 1974. The Heart Disease Advisory Committee of the Joint Commission on Accreditation of Hospitals (JCAH) recommends the following number of open heart surgical procedures as the minimal number necessary to provide high quality service:**

Adult Patients
200

Children
75

The JCAH Steering Committee recognized that numerical criteria may have to be modified by local planning agencies concerned with health care services in sparsely populated areas.

Guideline

1. Open heart surgery should not be performed in additional hospitals in Montana unless it can be shown that the minimum number of procedures recommended by the Heart Disease Advisory Committee of JCAH can be met without reducing the number of procedures being performed at Billings Deaconess Hospital below the minimum recommended number.

*Hospital Survey Committee, Facilities for Open Heart Surgery, Philadelphia, PA, September, 1972.

**Heart Disease Advisory Committee, Joint Commission on Accreditation of Hospitals, "Optimal Criteria for Care of Heart Disease Patients," Journal of the American Medical Association, December 10, 1973, Vol. 226, p. 1340-1344.

Intensive Care and Coronary Care Units in Small Hospitals

Intensive care and coronary care units were once found only in large hospitals. Medical knowledge and technology have now reduced the cost and complexity of these services to the point where these services are widely available. Much of the equipment required for these units is also required for Medicare certification if surgery is performed in the hospital.

Since intensive care and coronary care units are used in emergency situations, it would be desirable to have them easily accessible to everyone were it not for the problem of maintaining adequate utilization necessary to assure high quality care. This is necessary for both personnel and equipment. If the minimum number is not maintained, additional training will be necessary for the health personnel involved.

Guideline

1. Intensive care units and coronary care units should have a minimum of eighteen patient days a month in order for the personnel which staff the units to maintain proficiency.

RELATIONSHIPS OF ENVIRONMENTAL HEALTH ELEMENTS
AND SUB-ELEMENTS TO HEALTH

While it should be obvious that the deterioration of certain environmental elements and sub-elements would adversely affect the health of Montana citizens, it is not equally obvious for all the elements and sub-elements presented in the body of this document. In order to assure that the relationship of each environmental component to health is understood, the following material is presented.

ELEMENT: WATER QUALITY

The paramount health consideration of water is that, when used for human consumption, it be chemically and biologically safe. In general, progress in this aspect of water sanitation has been significant, and the public water supplies of this country rank in quality among the finest in the world.

However, a recent cause for concern was revealed through a Public Health Service Water Supply Survey which showed 36% of the 2,600 individual tap water samples taken contained one or more bacterial or chemical constituents exceeding public health limits. Physical deficiencies were found in some aspect of 53% of the supply systems, and 79% of those systems had not been inspected or evaluated by state or county authorities in the year prior to the survey.

Adequate protection of a public water supply is a basic concern of environmental health, a concern that should not be substantially weakened by the press of other matters. Furthermore, through fluoridation of public water supplies, a substantial improvement to the dental health of the population can be obtained.

Controlling pollution of ground and surface waters at the source is the most practical means of preventing the chemical, physical or biological degradation of a water supply. The preventive approach is much preferred to attempts at cleansing polluted water, controlling transmission through water courses, or protecting potential receptors from coming into contact with polluted water.

In addition, because of the many other uses of this precious commodity, it is desirable to regard the development, protection, and use of water resources as a unit.

ELEMENT: AIR QUALITY

The air enveloping the earth is the life-supporting medium within which man lives. Of a limited quantity, this air must be re-used in the large number of activities of modern man with which it is involved. Man's uses, for example, combustion and ventilation, often contaminate the air with pollutants harmful to his health and environment. Fortunately, nature has provided a cleansing and rejuvenating mechanism, which, like all natural systems, is limited. When the system becomes overloaded and

the tolerance of man and his environment is exceeded, man must either suffer the consequences or initiate action to preclude the resulting damage and loss.

Air pollution is a major factor in respiratory ailments such as emphysema, chronic bronchitis, asthma, and lung cancer and appears to be a factor in heart disease and abnormal human behavior. It also adversely affects the quality of human life by damaging the environment's vegetation, animal life and man-made materials.

Health effects are generally the result of extended exposure to relatively low levels of air pollutants. However, acute effects have been noted and recorded in numerous air pollution disasters. Conditions resulting in disasters are extensive air pollutant emissions and prolonged periods of limited dispersion through atmospheric inversions and/or stability (absence of wind).

In one such disaster in London, England, in December, 1952, an estimated 4,000 deaths were caused by a dense, heavily polluted fog. Although the very young, the aged and the infirm were most affected, increased mortality occurred in all age groups. Infant mortality doubled, deaths of children 10-13 years of age increased by 1/3, and deaths of young adults increased almost 2/3. Deaths from bronchitis and pneumonia, eight and three times normal respectively, accounted for about 1/2 of the total increase in mortality. Other causes of death for which marked increases were observed were pulmonary tuberculosis and cancer, coronary disease and myocardial degeneration.

ELEMENT: FOOD PROTECTION AND NUTRITION

A basic need of man is safe, wholesome, nutritious food. Food, however, can be a source of disease agents, toxins, poisons, and malnutrition. It is estimated that from two to ten million people in this country contract some form of food-borne disease annually. The greatest numbers of people affected by these outbreaks were affected at a public food establishment or institution; however, outbreaks were reported in all other areas, from trains to social gatherings to homes. If sanitation and proper food handling methods are not practiced at all stages of handling - from production to consumption, foods can become unfit for human consumption as a result of biological, chemical or physical contamination.

Consumerism has developed a particular interest in foods. Today's consumer finds unacceptable the existence of filthy or unsanitary conditions in food manufacture, processing, or serving establishments. In addition, the consumer demands to know what is in food, how much is being offered for sale and the nutritional content of the product. Labelling has thus received increased attention in recent years.

Nutrition is a critical factor in the promotion of health and prevention of disease as well as in recovery and rehabilitation from illness or injury. National evidence mounts that individuals who fail to attain a diet optimal for health can be found at every socioeconomic level. The reasons are many and complex. The impact on health is seen in the increased risk of complications of pregnancy in the poorly-nourished woman; in the

chance that her infant may be of low birth weight with accompanying risk of retarded physical and mental development; in the high incidence of overweight and underweight in schoolage children and in adults; in the debilitation of the malnourished elderly; in dental disease, widespread in the total population; and in the high incidence of chronic illnesses that require dietary treatment, monitoring, and follow-up. It is apparent that improvements in the nutrition of people will have a direct effect on the level of health and the resulting need for health services.

Nutrition services should be a component of all health and health-related programs and should be designed to reach the total population with priority given to such nutritionally vulnerable groups as infants, children and youth in the growing years, women in the child-bearing years, and the older age population.

SUB-ELEMENT: HOUSING

Housing, for environmental health consideration, involves considerably more than just the housing structure; it includes the residential environment and the interaction with that environment by stresses such as noise, congestion, pollutants, solid and liquid wastes, safety hazards, temperature, disease vectors, etc.

The residential environment represents a complex potential health problem. There is a marked correlation between substandard housing and health, and controlled studies have shown that improved housing reduces the incidence of illness and death of the inhabitants.

Many believe that the irritations, frustrations, and invasions of privacy that occur in some residential settings are leading factors contributing to mental illness and anti-social behavior.

A number of diseases are related to inadequate housing. Many respiratory infections are related to inadequate heating or ventilation and inadequate and crowded sleeping arrangements. Gastro-intestinal diseases are causally related to crowding, inadequate water and sewage disposal facilities or the multiple use of toilet, water, sleeping and food handling facilities. Rats proliferate where environmental sanitation in the neighborhood environment is inadequate. Perhaps the major health problem associated with housing is the accidental injuries that occur in homes, and that are related to conditions such as general disrepair, poor lighting, poor electrical connections, crowded conditions, and substandard construction. Nationally, these accidents affect about 25 million people in their homes each year, and constitute 1/3 of all non-fatal and 1/4 of all fatal injuries that occur.

SUB-ELEMENT: PUBLIC ESTABLISHMENTS AND INSTITUTIONS

Public housing establishments and institutions are especially susceptible to environmental health problems because they are somewhat communal in nature and often people utilizing their services are exposed to a wide range of other persons constituting a large reservoir of potential pathogens.

Problems that are associated with housing are compounded in public establishments and institutions - respiratory infections are related to crowding, multiple use of sleeping facilities, and inadequate heating or ventilation. Gastro-intestinal diseases are related to inadequate water supply or sewage disposal, cross-connection potential, multiple use of bedding, toilet, and food handling facilities. Accidental injury potential can be significant for employees, guests and residents.

Hospitals, directly involved in care of the infected and sick, must be particularly careful of cross infections, with staphylococcus spread a classic example of problems that can occur. Schools also often have a significant reservoir of infective agents among their population, and careful attention to environmental control is necessary to avoid in-school epidemics. Lighting is an environmental stress involved in schools that must be adequately regulated and supervised to insure health damage does not occur.

Penal, mental, and orphanage institutions are often problem areas due to the communal life-style, difficulty in keeping them sanitary, and perennially low budgets. Because of these, sanitation is often one of the first services to be cut back.

A principal threat in public establishments such as hotels and motels is that of accidental injury and death due to fire. This is also a significant threat in hospitals, schools, and institutions due to the difficulty of evacuating the premises in a rapid, orderly manner.

Other environmental health stresses that may become problems in public establishments and institutions include vectors, pesticides, noise, radiation exposure and solid wastes.

SUB-ELEMENT: PRODUCT SAFETY AND HOME INJURY CONTROL

Accidental injuries and deaths are a health and medical problem of cardinal significance. Accidental injury is the fourth leading cause of death for all ages, but is the leading cause of death among persons between the ages of 1 - 35 years. Potential life years lost are thus highest as a result of this public and environmental health problem.

An estimated 20 million Americans are injured annually in their homes in accidents connected with consumer products. Of this total, 30,000 are killed and another 110,000 are permanently disabled.

The problem is particularly acute in Montana where the accidental death rate is 52% higher than for the United States as a whole. The motor vehicle death rate is 41.8 per 100,000 population while for the nation as a whole the rate is 26.2%. For accidents other than motor vehicle, the rate for Montana is 40.5% as compared to the national rate of 28.0%.*

As a state concerned about its increasingly scarce medical resources, we must begin to recognize the impact which injuries have in continually

*Emergency Medical Services Plan, p. 1.

depleting that reservoir. Public and environmental health are long overdue in addressing epidemiological principles to the control of this most severe health problem.

SUB-ELEMENT: SOLID WASTE

Solid wastes are those solid materials, resulting from residential, commercial, industrial, institutional and agricultural activities, that are deliberately discarded. Solid waste management includes a wide spectrum of activities such as sources and types of materials commonly known as solid waste, plus the various types of hardware and subsystems associated with the storage, collection, transportation, processing, salvage, and disposal of that waste. Also involved is the conservation of natural resources through source reduction and resource recovery activities.

The goal of solid waste management is to protect health and enhance environmental quality while preserving or reusing resources, the attainment of which requires that solid wastes be handled in a systematic manner that is efficient, effective, non-injurious to health, and aesthetically acceptable.

Studies have shown an association between solid wastes and twenty-two human diseases. The rodents and flies that infest open dumps can and do carry disease agents throughout an area. The residues from burning dumps pollute the air to produce additional disease hazards. Chemicals, some of a highly hazardous nature, and leachate from dumps can reach surface or ground water courses that may be directly used by man, and can thus threaten his health. These health hazards are rarely acute, but are most often a chronic or slow, cumulative impairment to health and life, involving traces of chemicals, low level radiation, air and water pollution, drug residues, etc.

In the long-term situation, waste and abuse of materials and resources can have serious consequences for life. The concept of the "spaceship earth" - now widely accepted - includes the finite nature of our non-renewable resources. Application of these concepts by individuals in their daily lives has nevertheless been negligible. Certainly this indicates a need for education in the areas of source reduction and resource recovery of solid wastes.

Although poorly defined, the relationships of environmental quality and sanitation to mental health and to the quality of life is added justification for involvement in the control of solid wastes.

Workers in the solid waste handling industry are three times as susceptible to disease and nine times as vulnerable to accidental injury as the general population.

SUB-ELEMENT: OCCUPATIONAL HEALTH AND SAFETY

Federal legislation passed in 1970 recognized that a need existed to improve the work place environment to better protect the health and safety of the American worker. Some 15,000 workers were killed and some 2.2 million suffered disabling injuries in 1970 that were related to their work.

In our modern, highly technological, and industrialized society, millions of Americans - as a direct result of their occupations - are exposed to health damage from toxic chemicals, accidental injuries, and both physiological and psychological stress and pressure. The types and varieties of occupational safety and health threats are as diverse as the types and varieties of businesses and industries that exist in this country. Ideally, occupational health programs should include provisions of personal and public health services to the employed members of the community, as well as direct control over working conditions.

SUB-ELEMENT: NOISE

Since World War II, community noise levels have been increasing. Increases in crowding, motor vehicle transportation, air traffic, industrialization, and home gadgetry have resulted in noise which sometimes places severe limitations on the quality of life led by both those directly affected and those intermittently exposed. Consideration of noise and its effects have far too often come only as an afterthought in community planning.

Excessive noise levels can adversely affect man in several ways including temporary, and permanent hearing loss, physical and mental stress and disturbance, interference with voice communication, and disruption of rest and relaxation. The general community noise levels presently found in this country have not been conclusively linked to physical or mental health disorders. However, the stressful effects of noise when combined with other environmental and social stresses, are undoubtedly damaging to persons whose physical and mental health are already impaired.

SUB-ELEMENT: RADIATION

Radiation when utilized by qualified personnel is an instrument for promoting and improving human health and well-being. The diagnostic x-ray, the use of radioisotopes in clinical diagnosis and therapy, improvement of industrial and processing operations with the application of radioisotopes, electric power generation, and the use of lasers are but a few examples of beneficial radiation use.

Nevertheless, radiation exposure to the population involves some risk according to the Federal Radiation Council and the magnitude of that risk increases with exposure. This non-threshold theory of radiation damage states that there is not a limit to the amount of radiation exposure below which no damage is done. This is the theory generally accepted in health physics today and applied in the control over use of and exposure to radiation.

Radiation exposure can result in biological damage which is often not immediately apparent. The damage may become evident in various forms; and the time frame of effects versus exposure may vary widely depending upon the type of radiation, duration and magnitude of exposure, and the portion of the biological system exposed.

There are delayed somatic effects such as leukemia, reduced life span,

precancerous lesions, and neoplasms that may not become evident for years after chronic or long-term exposure to relatively low levels of radiation. There are also genetic effects of radiation exposure such as mutations of progeny which would not become evident for several generations. The aim of any radiation control effort then should be a policy of preventing all unnecessary exposure.

SUB-ELEMENT: PESTICIDES AND VECTOR CONTROL

Environmental control of vectors, whether by source reduction, chemical, or physical means serves three purposes:

1. The improvement of human health and well-being;
2. A reduction of annoyance, thereby creating an environment which can be more fully enjoyed by everyone at work, at home, and during recreation; and
3. Economic improvement via recreational and resort utilization rates, weight gain in cattle, etc.

Such control efforts that involve pesticide application, however, may have direct and indirect health implications ranging from poisonings to contamination of food, water, air, and soils. Thus, both control of vectors and control of the chemical agents often used (and mis-used) are necessary for protecting and promoting health. The principal vector-borne disease in Montana is encephalitis. However, surveillance is necessary for a wide variety of other vector-borne diseases, such as plague, Rocky Mountain spotted fever, Colorado tick fever, rabies and leptospirosis. In times of concentrated population, the bites and stings of bees, wasps, hornets, ants, spiders and snakes may cause injury and even death. In lesser numbers, these and other community vectors and pests can severely limit the enjoyment and utilization of our environment.

Disasters and other emergencies are particularly conducive to excessive populations of vectors, and are a time when the ability to take prompt action toward control is essential to health protection. Conditions just less than disaster present a difficult time for present vector control agencies.

The new line of synthetic organic pesticides, introduced to replace the environmentally damaging, stable chlorinated hydrocarbons, are considerably more toxic to the user or applicator, and their misuse may result in injury and death.

Environmental contamination of foods, air, water, and soils has occurred as a result of transportation accidents, poor storage practices, improper pesticide usage, and improper disposal of pesticides.

SUB-ELEMENT: LAND USE

Planning to identify areas where growth should occur and where it should be limited could have beneficial effects for the control of environmental

health problems. In areas where air or water qualities are already under stress, further development should not be planned or allowed.

Land use regulations come in a variety of forms: zoning, building, code enforcement, subdivision regulation, and the use of covenants.

Subdivision control is essentially an effort to review before the fact a proposed residential or industrial development and to evaluate that development in terms of environmental health and general environmental implications. Water supply and pollution potential, air pollution, noise, crowding and waste disposal are some environmental health stresses to be evaluated. Through zoning, governments have attempted to identify different property uses needs and desires.

Land use in nearly all cases is concerned with a great deal more than environmental health problems, and the principal effort of health professionals should be to see to it that health concerns receive adequate attention in the overall process and that present environmental health laws and regulations are effectively, integrated and coordinated with land use control proposals. Therefore, land use regulations are perceived to be of considerable importance within the field of environmental health and its problems.

In developing the State Plan for Health, a review was made of all health-related planning documents having a Statewide scope. Many references to these are made throughout the State Plan for Health. Following is an annotated bibliography of all documents reviewed.

1. State Plan for Programs on Aging Under Title III of the Older Americans Act of 1965 As Amended for the State of Montana for Fiscal Year 1974, Administration on Aging, October, 1973.

This document is essentially a work program for the State's Aging Services Bureau and the County Councils on Aging.

See CHP State Plan for Health Environmental Element on Food Protection and Nutrition and Health Services section on home health.

2. Montana State Plan for Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation, State Department of Health and Environmental Sciences, Alcohol and Dependent Drugs Bureau, FY 1974.

This document surveys treatment and rehabilitation resources for alcoholism in Montana and serves as a grant application for the Alcohol and Dependent Drugs Bureau.

3. 1974 State Plan, Developmental Disabilities Services and Facilities Construction Act of 1970, P.L. 91-517 Montana, Department of Social and Rehabilitation Services, Rehabilitation Services Division.

This plan inventories resources, provides for community participation and cooperation among related agencies, discusses the magnitude of the problem of developmental disabilities in Montana, paying particular attention to providing services to the medically indigent. With the addition of quantifiable objectives and content relative to prevention of developmental disabilities, this plan should be incorporated as a chapter of the State Plan for Health.

4. Montana State Plan for Drug Abuse Prevention, Governor's Office, Addictive Diseases Unit, 1974.

This document presents statistics on drug abuse in Montana and outlines a work program for the Addictive Diseases Unit.

5. Montana State Plan for the Improvement of Emergency Medical Services, State Department of Health and Environmental Sciences, Emergency Medical Services Bureau, 1973.

This is a comprehensive plan designed to reduce death and disability in Montana resulting from medical emergencies. It contains objectives and activities to accomplish these.

The CHP State Plan for Health Personal Health Services section on emergency medical services endorses this plan and calls for implementation of its objectives. See also CHP Plan Health Services section on prevention, Facilities section, and Health Manpower section on community health sources.

6. Montana State Plan for Hospital and Medical Facilities Construction.

This Plan, also known as the Hill-Burton Plan, is a document for guiding the construction and modernization of hospitals and related medical facilities serving each area of the State. It is used by the Health Facilities Committee as a basis for recommendations concerning health facility projects. The Plan is discussed more fully in the Health Facilities section of the Plan.

7. A Montana Plan for Mental Health Services, Statewide and Community Mental Health Planning Committee, June 30, 1965.

This comprehensive plan contains a study of elements which have positive or negative effects on the overall problem of mental health among the people of Montana. It analyzes these elements and makes recommendations.

See CHP State Plan for Health Health Services section on Mental Health for discussion of this Plan.

8. Montana State Plan for Community Mental Health Centers Construction, Division of Hospital and Medical Facilities, Department of Health and Environmental Sciences, Revised 1969.

The Plan is updated yearly.

The Plan serves as a basis for allocating Federal funds for community mental health centers construction. If the Federal programs are continued, the Plan will be revised in FY 1975, and will serve as the basis for reviews by the appropriate CHP committee.

9. Montana State Plan for Mental Retardation Facilities Construction, The Division of Hospital and Medical Facilities in the Department of Health and Environmental Sciences, Revised in 1970.

Since 1972, the Department of Institutions has had the responsibility for updating the Plan.

This Plan is a public document for guiding and influencing the orderly development and improvement of services, and the construction or modernization of facilities for the mentally retarded.

10. Montana Developmental Plan for Occupational Safety and Health, Department of Labor and Industry, Workman's Compensation Division, 1972.

The stated purpose of this document is "to reduce the number and severity of work-related injuries and illnesses occurring to Montana employees." It reports the results of several studies conducted by the Division relative to accidents on the job and hazardous conditions in work places and presents the draft of a Montana Occupational Safety and Health Act which aims to set and enforce occupational safety and health standards in Montana.

See CHP State Plan for Health Environmental Element: Occupational Health and Safety.

11. State Plan for Medical Assistance State of Montana, Title XIX, Department of Social and Rehabilitative Services, Medical Assistance Bureau.

This document provides detailed rules and regulations for the administration of the assistance program for medically indigent persons in Montana. It is presently being updated.

12. Montana State Plan for Rehabilitation Facilities and Workshops, Department of Education, Division of Vocational Rehabilitation, 1969 and annual addenda.

This Plan inventories all rehabilitation facilities, identifies rehabilitation service deficiencies and lists priorities for addressing problems.

The CHP State Plan for Health Facilities section endorses this Plan and calls for its utilization in the development of rehabilitation facilities and services.

13. Final Report Montana Statewide Planning for Vocational Rehabilitation, Department of Social and Rehabilitation Services, Division of Vocational Rehabilitation, 1968.

This comprehensive plan surveys the resources available for vocational rehabilitation in Montana, identifies deficiencies, sets priorities for attacking the shortcomings, and provides for implementation. The Plan utilizes a broad-base of citizens for input in its development.

This Vocational Rehabilitation Plan will be submitted to the CHP Advisory Council for its endorsement and inclusion as part of the State Plan for Health.

14. Comprehensive Areawide Water and Sewer Plan, 1970, State of Montana, 14 Vols, Theodore J. Wirth and Associates, Environmental Planning Consultants, and Mueller Engineering, Consulting Engineers for State Department of Planning and Economic Development.

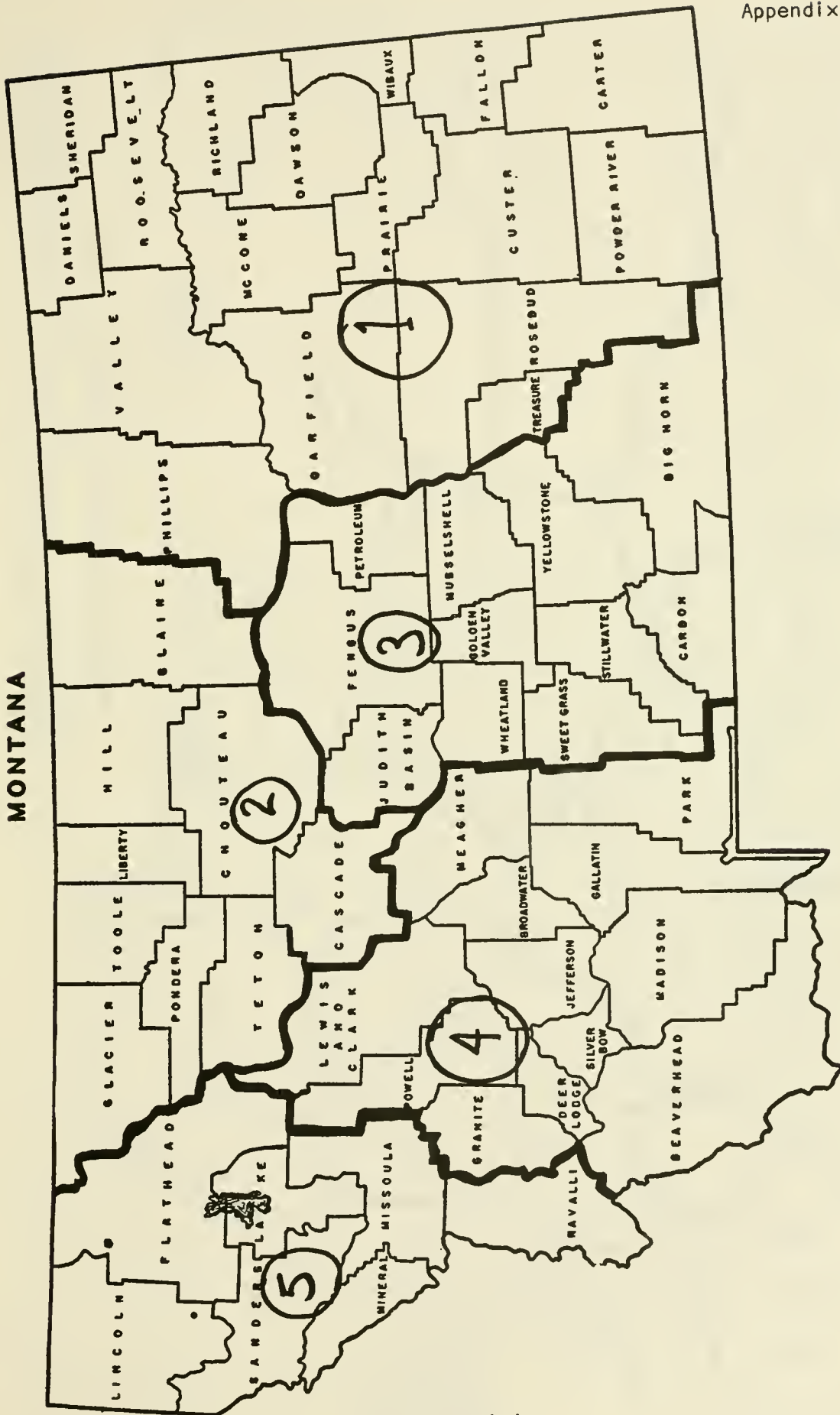
This Plan provides a detailed analysis of present water and sewage systems in forty of Montana's fifty-six counties and examines the need for new and improved systems.

15. Grant Application and Annual Plan, Montana Youth Development Bureau, FY 75.

This document is a work program for the Youth Development Bureau and does not relate directly to the CHP State Plan for Health.

See CHP Plan Health Services sections on prevention (well-child clinics and dental programs) and Health Education (in schools) and Health Manpower section (careers).

MONTANA



MONTANA

MONTANA MULTI-COUNTY DISTRICTS

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HELENA
BOULDER
JEFFERSON
SILVER
BOW
DALLON
BEAVERMEAD
MADISON
VIRGINIA CITY
BOZEMAN
GALLATIN
TOWNSEND
BROADWATER
WHITE SULPHUR SPRINGS
MEAGHER
WHEATLAND
NARLOWTON
GOLDEN VALLEY
RYEGATE
MUSSELSHELL
ROUNDOUP
WINNETT
PETROLEUM
LEWISTOWN
FARGUS
STANFORD
JUDITH
BASIN
CHOCUTEAU
FORT BENTON
WILLOW
MAYRE
CHINOOK
LAINIE
PHILLIPS
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BIG TIMBER
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Sanders Co.
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by Executive
Order 7-73.

MONTANA MULTI-COUNTY DISTRICTS

Established by Executive Order 2-71, dated August 24, 1971
Amended by Executive Order 7-73, dated October 29, 1973

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SUB OBJECTIVES BY YEAR

1974

- To identify all Montana communities which cannot support a physician by fall, 1974. p. 101
- To obtain support and endorsements of the environmental management systems study and the Local Health Services Bureau recommendations put forth in Sub-Objective 1.a and 1.c by December 31, 1974. p. 130
- To incorporate into water pollution surveillance and monitoring activities, efforts to obtain chemical analysis of a more in-depth nature and with greater frequency from surface waters used for municipal supply by December 31, 1974. p. 136
- To have EPA approval and signature of an agreement allowing state takeover of the review of facility plans and specifications and operation and maintenance manuals by December 31, 1974. p. 139
- To have signed the state's application to administer the National Pollutant Discharge Elimination System (NPDES) permit system, and to issue permits to all substantial dischargers in Montana by December 31, 1974. p. 140
- To present the proposal for the state providing low-interest loans to supplement available federal funds in stimulating construction and purchase of new housing. This study should be completed by December 31, 1974. p. 150
- To take enforcement action by December 31, 1974, against at least one community that continues to reject other means of seeking provision of adequate solid waste disposal facilities. p. 158
- To implement a biannual meeting arrangement among state agencies involved in pesticide regulation by December 31, 1974. p. 181
- To take every necessary action to negate federal administration amendment proposals to the Clean Air Act that reject non-degradation of high quality air as a function of EPA by December 31, 1974. p. 186
- To cooperate in an enforcement proceeding against an open-burning open dump with the SDH&ES Solid Waste Bureau as called for in Sub-Objective 1.b of the Solid Waste Section of this report by December 31, 1974. p. 187
- To develop and implement a plan for the control and regulation of indirect sources of air pollution and to have approval of the plan by EPA by December 31, 1974. p. 188
- Information about the Hill-Burton free care provisions shall be disseminated by September 1, 1974. p. 230

- To encourage the development of an effective adult health education package containing preventive health information to be used for presentations to service clubs, PTA's, senior citizen's groups and other organizations showing interest by 1975. p. 45
- To require that all plans developed by the Department of Health and Environmental Sciences include prevention planning by 1975. p. 46
- To develop a model school health education program in a school district in one CHP areawide district in the state, involving participation of the community, including School Board, school officials, teachers, parents, students, school health nurses or community health nurses and community leaders by July, 1975. p. 49
- To organize meetings to discuss need for comprehensive school health education with CHP areawide representatives and other community leaders including school officials, teachers and students, to be held the same day teachers meet to discuss use of the Health Curriculum Guide by July, 1975. p. 49
- To coordinate health education efforts for geographic regions of the state by July, 1975. p. 49
- By 1975, to explore the possibility of writing a grant to employ health education aides for one or two areawide CHP areas to work with State Department of Health and Environmental Sciences health education staff in providing health education services to the area or specific communities. p. 50
- To investigate the adoption of the Governor's twelve sub-state districts as principal local public health jurisdictions for Montana and arrive at a final decision by July 1, 1975. p. 55
- To encourage the Department of Health and Environmental Sciences to take aggressive roles in stimulating and supporting the development of local public health units that provide a minimum level of public health services and acceptable organization and staffing levels. Local public health policy statements should be issued by the State Department of Health and Environmental Sciences by July 1, 1975. p. 57
- To define by July 1, 1975, acceptable minimum levels of local public health services to be provided by local public health jurisdictions. The acceptable minimum level of services to be provided by a local public health unit in Montana should include: 1) community health services, 2) preventive health services, and 3) environmental health services. p. 57
- To promote the coordination and cooperation of existing health-related programs. p. 61
- To study the utilization of health resources in communities and develop a plan for increasing utilization of those resources which appear to have low utilization rates by 1975. p. 63

- To promote the publication and distribution of health resource manuals for at least 20 communities across the state by 1975. p. 63
- To organize a community-based group of citizens representative of a cross-section of the community, known as health advocates, to be responsible for promoting continued and increased information on available health resources by 1975. p. 63
- To develop a uniform strategy for the planning and administration of addictive disease prevention and treatment by July, 1975. p. 80
- To study the benefit of providing guarantees (salary, equipment, office space, living quarters) to attract physicians, dentists, etc. and to disseminate the findings to communities in search of manpower by 1975. p. 88
- To appropriate funds for the WAMI Project during the 1975 legislative session and to continue to fund it thereafter as long as Montana students are educated by it. p. 89
- To provide state funds to continue the Family Nurse Practitioner Program at Montana State University at its present stature past 1975. p. 95
- To identify who and what types of people might be potential Community Health Sources in communities which cannot support a physician by 1975. p. 101
- To prepare a preliminary model outlining the alternative types of Community Health Sources which might be chosen by communities of various sizes based on preliminary assessment by summer, 1975. p. 101
- To foster a closer relationship between the INMED (Indians Into Medicine) Program at the University of North Dakota and schools in Montana by 1975. p. 103
- To prepare a paper on the roles and responsibilities appropriate for paraprofessionals in health programs and to disseminate it to programs across the state by 1975. p. 108
- A voluntary system of shared management services should be functioning in southeastern Montana by January 1, 1975. p. 111
- At least two additional voluntary regional shared management services shall be functioning in Montana by December, 1975. p. 111
- An education program for hospital personnel on the necessity for and feasibility of health facilities offering social service referrals as a shared service where appropriate shall be held in each hospital district by July, 1975. p. 112
- Medical social service resource people will be identified in each CHP area of the state by July, 1975, and updated annually. p. 112

- To identify other major demands improperly placed on rural health systems by national legislation or regulations by July 1, 1975, and to attempt to change the demands. p. 121
- To commission the conduct of an in-depth management study of provision of environmental health services by July 1, 1975, and to have such a study completed by December 31, 1975. p. 128
- To study the feasibility of establishing a Bureau of Local Health Services within the SDH&ES by July 1, 1975. p. 128
- To provide adequate funding to enable enlargement of the SDH&ES Planning and Management Bureau in order to expand administrative efforts in these aspects to environmental health programs by July 1, 1975. p. 128
- To strengthen the SDH&ES Legal Services Unit by providing funding to allow addition of two additional staff lawyers by July 1, 1975, and to complete a study of various methods for improving enforcement of environmental health laws and regulations by July 1, 1976. p. 128
- To conduct a study of the desirability and potential of decentralizing environmental health services into SDH&ES District Offices by December 31, 1975. p. 128
- To have the formula for the provision of SDH&ES funds to local budgets increased in accordance with recent increases in demands and legislative requirements by July 1, 1975. p. 130
- To provide the SDH&ES Water Quality Bureau with additional funding to allow visits and inspections of municipal water supplies as necessary to insure their proper operation and provision of facilities. Funding should be adequate for the provision of manpower, travel expenses, office costs, etc., and should be provided by July 1, 1975. p. 136
- To develop and implement a certification program for private laboratories in the provision of chemical water analysis by December 31, 1975. p. 136
- To study the various mechanisms through which enforcement of applicable standards, rules, regulations, and laws could be obtained, and to implement the best alternative by July 1, 1975. p. 136
- To continue and upgrade the training for water plant operators through the use of seminars, newsletters, and personal contact by July 1, 1975. p. 137
- To provide a seminar for local public health sanitarians on all aspects of individual water supplies and development by December 31, 1975. p. 138

1975 (cont.)

- To make every effort to see that Montana receives additional federal funding for the planning and construction of municipal sewage treatment plants by fiscal year 1975. p. 139
- To provide at least one operation and maintenance inspection of all 150 public sewage treatment facilities by July 1, 1975. p. 139
- To provide training to waste-water treatment plant operators through provision of seminars, newsletters, and video-tape training aids by July 1, 1975. p. 140
- To survey, quantify, and issue permits to the affected confined feed-lot operations in the state by December 31, 1975. p. 140
- To establish five additional permanent in-stream water quality monitoring stations by July 1, 1975. p. 140
- To complete and implement a laboratory improvement effort including the development of precision and accuracy control techniques, data processing and use compatability, laboratory and field sampling procedures manuals, and provision of additional equipment and instrumentation by December 31, 1975. p. 141
- To complete a qualitative biological survey of major streams, and begin quantitative surveys in selected areas by December 31, 1975. p. 141
- To provide the United States Congress with a Water Quality Inventory Report by April 15, 1975. p. 141
- To identify and designate principal groundwater aquifers in the state, and to continue and expand surveillance efforts of groundwater quality and define problem areas by July 1, 1975. p. 142
- To provide adequate manpower, facilities, equipment and administrative organization to effectively review and control subdivisions in Montana by July 1, 1975. p. 142
- To establish definite and uniform procedures and guidelines for use by Water Quality Bureau personnel in carrying out administrative and judicial enforcement action by July 1, 1975. p. 142
- To develop effective training and education packages, with graphic and visual aids and recommend implementation methods, for use in educating the public as to 1) the benefits of public health and community development of provision for a municipal water supply system, 2) the benefits of fluoridation, 3) the need for extensive control efforts to insure protection and preservation of water quality, 4) the need for and benefits of water conservation. This sub-objective should be accomplished by December 31, 1975. p. 144

- To conduct a three to five day seminar on community block survey and socio-economic stratification techniques and on the proper use of survey results and data by July 1, 1975. Also included in this seminar should be information on the home accidental injury problem and on the control of this problem through educational and code enforcement programs. p. 147
- To assign to a state agency responsibility and authority for housing and for promotion and coordination of local, state, and national program efforts in the provision of housing by July 1, 1975. p. 150
- To establish a fund within the agency proposal in sub-objective 3.a which would be used as "seed" money to stimulate housing construction and purchase pending the process of application for and provision of federal funds. This sub-objective should be accomplished by July 1, 1975. p. 150
- To provide additional funding to the SDH&ES Environmental Services Bureau allowing staff expansion in the public establishment section by one-half man year, and allowing adequate funds for travel, equipment, books and journals, and in-service training by July 1, 1975. p. 153
- To provide funds to the SDH&ES Environmental Services Bureau allowing for additional manpower and effort expenditure in the area of institutional environmental health control. Adequate funding to provide a one and one-half sanitarian man-years staff increase with funds for travel, office and field equipment, etc., provided by July 1, 1975. p. 154
- To authorize state involvement and program development through SDH&ES in product safety and home injury control by July 1, 1975. p. 156
- To plan, develop and implement a program of federal-state-local cooperation involving environmental health personnel for the provision of control efforts in product safety, hazardous substances, and injury control education by December 31, 1975. p. 156
- To conduct 25 training sessions for local political officials, government personnel and citizens by July 1, 1975. p. 158
- To have approved and operational the plans and programs of all 56 Montana counties for the storage and removal of junk vehicles by July 1, 1975, and to have 70% of the state's backlog of junked vehicles processed and removed for recycling by December 31, 1975. p. 159
- To implement by July 1, 1975, the licensing and screening provisions pertaining to junk-car graveyards. p. 159
- To implement the provisions of a hazardous waste regulation by December 31, 1975. p. 159

1975 (cont.)

- To evaluate and report on the occupational health and safety methods of the state's ten largest cities' collection programs and to provide these cities access to training aids for employee education by December 31, 1975. p. 160
- To study and evaluate markets for re-using paper and paper products, the principal component of municipal solid wastes, by July 1, 1975. To develop mechanisms for paper recycling by institutions, municipalities, and private citizens and businesses by December 31, 1975, if shown feasible. p. 161
- To work with the city of Great Falls and to research and develop resource recovery markets and separation techniques for milled refuse by July 1, 1975, and to work with the CHP South Central Areawide on the utilization of milled refuse in land reclamation associated with strip-mining. p. 161
- To develop a model program for the effective delivery of a thorough Occupational Health and Safety Program by December 31, 1975, and provide this model in the form of a report to the Governor and to the state office dealing in planning and provision of governmental services. p. 164
- To establish and adequately fund within the Bureau of Occupational Health, SDH&ES, a position whose responsibility would include provision for consultation and training of local health departments and governments in the area of occupational health, noise, and radiation by July 1, 1975. p. 165
- To hold a seminar for local health officials on environmental noise, its effects and control in five Montana localities by December 31, 1975. p. 168
- To finalize and complete signing of the necessary forms for designation of Agreement State status and authority by December 31, 1975. p. 171
- To develop a program plan for an adequate environmental radioanalysis and surveillance system, and to obtain the necessary manpower, equipment, travel and administrative costs as called for in the plan by July 1, 1975. p. 173
- To establish cooperative working agreements with federal agencies involved in radiation disaster control, in milk, water, vegetation, and soil surveillance networks by July, 1975. p. 173
- To implement an effective data reduction, processing and reporting system for environmental radio surveillance data by December 31, 1975. p. 173
- To distribute to the healing arts practitioners information relative to the health effects of radiation, in order that attention is given to this aspect when decisions regarding specific X-ray examinations or treatment are made. This task should be completed by December 31, 1975. p. 174

- To obtain the needed funding to hire, train, and equip a one-half man increase in the SDH&ES Environmental Services Bureau's Vector Control Program by July 1, 1975. p. 177
- To develop a complete audio-visual and graphic program which would explain vectors, diseases, and means of control and which would have use in promoting the formation of Control Districts by July 1, 1975. p. 177
- To authorize involvement of personnel and monies of Mosquito Abatement Districts in the control of other vectors by July 1, 1975. p. 178
- To study and recommend methods of providing health and vector control in-put in the planning of water development programs by December 31, 1975. p. 179
- To study and to identify the roles of the various control agencies in responding to pesticide emergencies by July 1, 1975. p. 181
- To develop and implement a cooperative effort of the SDH&ES and State Department of Agriculture in increased surveillance of persons involved in pesticide application by July 1, 1975. p. 181
- To insure that the Governor and the 1975 Legislature give full and serious attention to the results of the EQC's land use policy study and that both those components of government understand that the effective application of land use controls can have beneficial effects on health through control of environmental health stresses. p. 183
- To support the application of the Department of Natural Resources and Conservation-developed resource inventory method of land use planning at both state and local levels by July 1, 1975. The provision of adequate funding to allow DNR&C the resources to promote their resource inventory method of land use planning to local officials through provision of training sessions would do much to allow accomplishment of this sub-objective and should be undertaken. Cooperation in provision of the training sessions should be provided by the Montana Association of Counties. p. 183
- To develop and implement an operating permit system as an aid in the control of air pollution sources by July 1, 1975. p. 186
- To provide the SDH&ES Air Quality Bureau with sufficient budget, manpower, equipment, and auxiliary services to effectively administer a maintenance level control effort including at least the following aspects by July 1, 1975:
- 1) new source review (including environmental impact statement development)
 - 2) existing source surveillance (including expanded source testing capability)

1975 (cont.)

- 3) special studies and control plan development (for problems such as slash burning, right-of-way burning, agricultural and municipal dust suppression, and natural resources development and energy generation source control, both direct and indirect). p. 187
- To develop effective training and education programs with graphic and visual aids and recommended implementation methods by December 31, 1975. p. 189
- To enlist the support and assistance of local health educators and sanitarians in the provision of this educational effort by December 31, 1975. p. 189
- To conduct the necessary study and to revise the regulations pertaining to food control in order to make them comprehensive, effective, and readily enforceable by July 1, 1975. p. 192
- To provide an additional four-state sanitarian consultant to the Environmental Services Bureau and to provide proper funding for this food control unit to this Bureau by July 1, 1975. p. 192
- To conduct routine surveys of local food control efforts by December 31, 1975. p. 192
- To review current efforts of other states in the nation in food service manager training and certification, and to evaluate the effectiveness of such efforts in upgrading food control efforts in Montana by July 1, 1975. p. 192
- To provide a model training and education program for food industry personnel by July 1, 1975. p. 193
- To provide in-service training programs pertaining to food sanitation control to local sanitarians by July 1, 1975. p. 193
- Expand urban Indian health outreach programs to insure as many Indian people as possible will have a health advocate by 1975. p. 221
- To secure funds to initiate such a data coordination and management function by July 1, 1975. p. 225
- Recipients of Hill-Burton funds should be encouraged to develop a uniform strategy for affirmative action in granting free or reduced rate care under Hill-Burton regulations by January, 1975. p. 230
- To educate Montana providers on the PSRO concept and press for the organization of a PSRO in Montana by 1975. p. 242
- To form a sub-committee of the State Advisory Council for Comprehensive Health Planning by 1975 whose major responsibility will include the study of national regulations and legislations to determine its impact upon Montana. p. 121

To support the adoption of an affirmative action policy with regard to family planning in Montana by 1976. p. 42

To develop on-going well-child clinics in five population centers by 1976.

Note: The Children and Youth Project in Helena is an example of such an on-going project. Supported by federal funds and local in-kind matching, it offers comprehensive services in conjunction with the City-County Health Department. p. 43

To determine the degree to which prevention is and/or could be an aspect of the programs within each division and bureau of the Department of Health and Environmental Sciences and to design a mechanism for a cross-pragmatic approach to prevention within the Department of Health and Environmental Sciences by 1976. p. 44

To identify a county with poor health status (as proven by statistics), isolate a statistic, develop a preventive campaign to lower the incidence of the condition by 1976.

Note: For example, Roosevelt County has an infant mortality rate of 39.2 deaths per 1,000 births, compared with 21.6/1,000 for Montana and 19.2/1,000 for the U.S. If a comprehensive plan could be developed to educate mothers, provide nutritional information, early and continued examinations through pregnancy along with other necessary services, would this 1) lower the incidence of infant mortality and 2) change the behavior of mothers so that preventive steps would be taken for future births? p. 44

To provide at least two continuing education seminars on preventive health for health professionals in Montana by 1976. p. 45

To provide at least two seminars for elementary and secondary school teachers on preventive health measures by 1976. p. 45

To research and draft legislation to require that insurance companies in Montana must offer a package which provides for preventive care by 1976. p. 47

To place by 1976, at least one health education staff person responsible to a local health authority or the State Department of Health and Environmental Sciences in two of the five CHP areas in the state to develop areawide community health education programs for those areas. p. 50

By 1976, to initiate, through efforts of Office of Superintendent of Public Instruction and State Department of Health and Environmental Sciences, adult education classes in health education in five school districts in the state, either as part of the comprehensive community health education area-wide program, or as separate demonstration projects. p. 50

- By 1976, to develop and demonstrate a model for sharing patient education personnel by three or more hospitals in one of the Hospital Learning Center areas which can be adapted to other hospital and nursing homes in the state. p. 50
- To support and assist in the implementation of the MONTANA STATE PLAN FOR THE IMPROVEMENT OF EMERGENCY MEDICAL SERVICES by 1976. p. 52
- To promote the development of a preventive portion of the State Emergency Medical Services Plan by 1976. p. 52
- To promote the development of efficient health information and referral centers in at least five communities across the state by 1976. p. 63
- To provide a statewide public information program about home health care by 1976. p. 72
- To prepare a State Plan for Mental Health Services in Montana by 1976. p. 77
- To establish a statewide recruitment and placement service for primary health care personnel by 1976. p. 87
- To establish a program by 1976 to attract Montana's youth to primary health care careers. p. 89
- To study by 1976 the feasibility of "buying" places in out-of-state (and out-of-WICHE Region) professional schools and training programs for which Montana cannot establish educational programs within the state. p. 91
- To study the feasibility of attaching a service commitment to the WICHE and WAMI programs by 1975 and to make recommendations to the legislature relative to the findings by 1976. p. 94
- To pass legislation by 1976 making legal the use of physician's assistants by physicians licensed to practice medicine in Montana. p. 95
- To develop a training program for potential Community Health Sources by 1976. p. 101
- To contact every school counselor in Montana by 1976 to offer assistance to them in interesting Indian students in health careers. p. 103
- To disseminate the pamphlet on health careers prepared under Sub-Objective A.2.c above, to all high school students in schools with significant Indian populations by 1976. p. 103
- To conduct two workshops for health providers by 1976 in the eastern and western halves of the state to present the team concept and to discuss ways teams could be utilized and promoted in Montana. p. 107

1976 (cont.)

- To establish positions for paraprofessionals in two federally-funded health programs which have not utilized paraprofessionals previously by 1976. p. 108
- To increase information and education efforts of the various environmental health programs by assigning information, public relations, and education responsibilities to a health educator for each Bureau within the SDH&ES Environmental Sciences Division. Adequate funding should be provided to allow placement of this additional personnel, and it is suggested that health educators be directly responsible to the Bureau Chief, with an indirect organizational link to the Health Education Bureau. This should be accomplished by July 1, 1976. p. 128
- To study the feasibility of a Local Services Bureau within the SDH&ES by July 1, 1975, and to have such a Bureau established by July 1, 1976, if deemed desirable. p. 129
- To study the possibility of providing state grant monies to local health units that plan and agree to participate in a comprehensive state-local partnership effort in provision of environmental health services by December 31, 1976. p. 130
- To study and develop a proposal for legislative consideration of the expansion of the powers and duties of local boards of health by December 31, 1976. p. 130
- To study and develop a proposal for an internship training period for public health sanitarians by December 31, 1975 and to have such a proposal implemented beginning July 1, 1976. p. 131
- To survey, identify, plan, schedule and obtain correction of deficiencies in 85% of the state's municipal water supplies by December 31, 1976. Problem identification should at least cover plant facilities and operation; distribution system; chemical, physical, and bacteriological water quality; and evaluation of operator capability. p. 136
- To inform municipal authorities throughout the state whose public water supplies contain less than optimal fluoride levels of the benefits of addition of fluorides and to have fluoridation of the public water supply in at least five cities by December 31, 1976. p. 137
- To have submitted for review 36 municipal sewage facility plans, 20 final plans and specifications, 12 operation and maintenance manuals and to conduct 12 final inspections by July 1, 1976. p. 139
- To initiate and develop the capability for an effective monitoring and surveillance system to insure compliance with NPDES permit system. Eight municipal and 13 industrial dischargers should be monitored as required by July 1, 1976. p. 140

- To conduct studies to identify lake eutrophication problems, the causes of the problems and sources of the nutrients, and to determine control technology by July 1, 1976. p. 141
- To draft and have implemented a groundwater pollution control regulation by July 1, 1976. p. 142
- To conduct community block surveys and socio-economic stratification studies in five Montana communities by July 1, 1976. p. 147
- To have an operating, planned neighborhood improvement program involved with housing health education, neighborhood survey and improvement and having input in planning for the community, in building and housing code advisory councils, and in public housing authorities in three Montana municipalities by December 31, 1976. p. 147
- To enact the Uniform Residential Landlord Tenant Act (URLTA) by 1976. URLTA was developed by the National Conference of Commissioners on Uniform State Laws and was adopted in 1972 as a model bill that strikes an objective balance between the rights and obligations of both tenants and landlords. URLTA holds both landlords and tenants accountable in encouraging the maintenance and improvement of rental units. p. 150
- To provide effective consultation services in the public establishment control program, and to provide in-service training to local sanitarians on the problems and control methods used in regulating public establishments by July 1, 1976. p. 153
- To study and develop a comprehensive set of regulations effectively controlling institutional environments from a public health standpoint by July 1, 1976. If legislative authority is needed to adopt the regulations, this must be undertaken as well. p. 154
- To provide effective consultation services in the institution control program, and to provide in-service training to local sanitarians on the problems and control methods used in regulating institutions by July 1, 1976. p. 154
- To have operating product safety-injury control programs within four local health agencies by December 31, 1976. p. 156
- To have established in the state twelve additional refuse disposal districts by July 1, 1976. At least one regional district should be created. p. 158
- To produce and make available to local sanitarians a slide-cassette-tape program on resource recovery and a similar program on source reduction, as well as radio and television public service announcements, and sample newspaper editorial and articles on these topics, by July 1, 1975. To have the slide programs shown to 2,500 Montana citizens, and the public service material aired on radio and television stations, by July 1, 1976. p. 161

1976 (cont.)

- To evaluate wood hog chip burners in western Montana as a user of rubber tire chips for combustion by December 31, 1974, and to implement a statewide program of collection, storage, and processing of rubber tires, if shown feasible, in conjunction with the junk car program by July 1, 1976. p. 161
- To research and develop for a legislative proposal by July 1, 1976, the concept of taxing wholesalers' and manufacturers' gross sales on any product that will eventually enter the solid waste stream. The concept should include state collection of the tax, the generated monies to fund the state program (now faced with cut-backs of federal funding) and to be redistributed to local governments for provision of solid waste management services including collection, transportation, processing, resource recovery, and disposal. District and regional programs could be favored under such a program. The concept and study should additionally investigate the possibility of a higher tax rate for "excess" waste, non-degradable waste, and hazardous waste in product production and packaging. p. 162
- To have a state OSHA program that corresponds closely to the model developed in Sub-Objective a, implemented and adequately funded by July 1, 1976. p. 164
- To provide a 3 to 5 day seminar on Occupational Health to health providers, as well as private concerns of the state, by December 31, 1976. p. 165
- To revise regulations used in implementing the radiation control program by July 1, 1976. This revision should provide compatibility with corresponding federal agency regulations and with those of other states. Legislation should also address control of non-ionizing sources of radiation such as lasers, microwave, ultrasound, ultraviolet, Infrared, etc. p. 171
- To adequately organize, staff, and equip the radiation control section for effective comprehensive control capability by July 1, 1976. The addition of two Radiation Control Specialists and an adequate budget is needed. p. 171
- To locate and license users of radioactive materials and sources by December 31, 1976. This process should include an initial evaluation of the users and of the materials and sources, as well as the manner in which they are being used to determine compliance with applicable state standards. p. 172
- To monitor and determine background levels of radiation in the state and to study in more detail the areas of known or suspected high uranium and thorium deposits, the smelters, the phosphate plants and the coal and energy development projects by December 31, 1976. p. 173

- To develop an information education package to assist local public health personnel in provision of education to the general public. The package should include audio-visual materials, press packet, graphic and written information materials, and suggested educational approaches. They should be developed by July 1, 1976. p. 174
- To have created and operational an additional ten Mosquito Abatement Districts in areas of the state where they are needed by December 31, 1976. p. 177
- To study and evaluate the various means by which the state could develop a contingency fund which could assist local areas in vector control during near-disaster or emergency situations, and to report a recommended measure for consideration by appropriate authorities by July 1, 1976. The means of providing this type of contingency may already exist, and may only have to be defined and agreed upon, with procedural outlines provided for their use. p. 178
- To develop informational pamphlets directed at the urban and at the suburban resident; a complete program, with graphic and visual aids and recommended educational procedure, that could be used by local officials in a detailed, planned education effort by July 1, 1976. This type of program should be conducted by five local health departments in conjunction with local extension agents by July 1, 1977. p. 180
- To provide four training sessions for health professionals on the provision of consumer education (as referred to in the last sub-objective) and on the diagnosis and treatment of pesticide poisoning by December 31, 1976. p. 180
- To investigate the various means by which a coordinated state-local effort could be utilized for more effective air pollution control efforts by July 1, 1976. p. 187
- To identify, through analysis of existing data statistics and nutrition information, the nutritional status of the state's population with particular emphasis on the identification of nutritional problems. p. 197
- To initiate a demonstration project for the delivery of nutrition services based on the model. p. 198
- Establish clinics by 1976 in urban communities that are known to Indian people as places where services can be obtained. These clinics would be on a regular or irregular basis depending on utilization and would use existing service centers in a non-duplicating manner. p. 221
- Develop a transportation system by 1976 that will allow urban Indians easier access to reservation health centers. p. 221

1976 (cont.)

- To create a coordinating committee on health data to guide the above effort by 1976. p. 225
- To assist in educating providers and consumers on the advantages of NHI by 1976. p. 229
- Promote improved health insurance policy information by 1976. p. 232
- Develop and distribute a "Shopper's Guide" to health insurance similar to the Pennsylvania guide. p. 232
- To develop funds through application for a feasibility grant under P.L. 93-222 for a survey of HMO applications in Montana with specific recommendations and follow-up by 1976. p. 237
- To determine economically feasible areas for short-stay units by 1976. p. 240
- To provide assistance to hospitals in identified areas for development of short-stay units by 1976. p. 240
- To assist in eliminating legal and reimbursement barriers to the establishment of such units by 1976. p. 240
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1977

- By 1977, to develop such a plan and initiate implementation. p. 50
- To investigate the possibility of decentralization of the Department of Health and Environmental Sciences into the Governor's five administrative areas by July 1, 1977. p. 55
- To provide additional funds to stimulate the development of acceptable local public health units, providing at least the minimum services with approved organizational structures by July 1, 1977. p. 55
- To encourage the development of single, full-time, coordinated, integrated organizations for the delivery of local public health services by July 1, 1977. p. 57
- To insure that each local public health jurisdiction maintains at least an acceptable minimum level of services and acceptable organization and staffing levels by July 1, 1977, and in subsequent years. Staffing requirements may vary in each public health jurisdiction; however, a public health unit that is delivering an acceptable minimum level of services could contain the following minimum full-time staff in a single administrative structure:

1. Health Officer/Administrator
Prerequisites should include:
Doctor of medicine degree with public health experience
or a master's in public health. If the (cont. on next page)

Health Officer/Administrator does not hold a doctor of medicine degree, those services requiring a physician should be contracted out and the SDH&ES would need to be assured that the medical aspects of the public health program are being conducted under the supervision of a competent physician.

2. Public Health Nurses (1 per 4,000 pop.)
3. Sanitarians (1 per 12,000 pop.)
4. Health Educators (at least 1 per local health unit)
5. Part-time Dental Hygienist/Dentist (at least 1 per local public health unit)
6. Vital Statistics Personnel
7. Clerical Support
8. Outreach Workers

p. 58

To provide back-up personnel to solo primary physicians in Montana by 1977.

p. 97

To establish an identified Community Health Source in ten communities in need by 1977.

p. 101

To increase the number of sanitarians practicing in the state such that a sanitarian to population ratio of 1 to 12,000 is attained by July 1, 1977.

p. 130

To obtain best practicable control technology from all industrial dischargers by July 1, 1977.

p. 140

To complete initial river basin water quality management plans in the remaining 13 basins by July 1, 1975; and to complete more intensive study of the stream segments where problems are identified, including waste load allocation studies and non-point source control studies by July 1, 1977.

p. 140

To participate to the maximum extent possible in the legislature-authorized studies of erosion sediment and saline seep control; and to develop (through the use of information from field studies and expert advisory councils of other governmental agencies and private organizations) guidelines outlining possible abatement techniques for non-point source problems such as erosion sediment, saline seep, nutrients, and acid mine drainage by July 1, 1977. By the same date, a study of the solutions to problems to dewatering streams below critical levels should be undertaken and completed.

p. 142

- To provide a health education series related to housing and including the health promotion benefits of sanitation, safety, and planned neighborhoods that control crowding, noise, congestion, and traffic, and that provide for privacy, outdoor recreational area, and opportunities for normal family and community life by July 1, 1977. The series should include a complete public education model program with graphic and visual aids, recommended educational techniques, and a listing of additional resources. p. 147
- To provide major local health agencies with various educational materials allowing them to develop local programs to inform workers of the health hazards of their working environment and of basic concepts of health promotion by July 1, 1977. p. 165
- To pass legislation providing for involvement of the State Department of Health and Environmental Sciences' Occupational Health Bureau in community noise control and to include adequate funding for implementation of this program by July 1, 1977. p. 167
- To revise the rules and regulations pertaining to radiation control such that a comprehensive program can be initiated by July 1, 1977. p. 171
- To pass legislation requiring the licensing by SDH&ES of radiologic technologists by July 1, 1977. p. 172
- To study the most effective methods for providing training and continuing education to local healing arts practitioners, to radiologic technologists, and to local public health personnel by December 31, 1977. If Sub-Objective 1.e is accomplished during this period, determination of the specific methods for training requirements and for attainment of these requirements will need to be considered under a radiologic technologist certification regulation. p. 174
- To develop informational pamphlets directed at the urban and at the suburban resident; a complete program, with graphic and visual aids and recommended educational procedure, that could be used by local officials in a detailed, planned education effort by July 1, 1976. This type of program should be conducted by five local health departments in conjunction with local extension agents by July 1, 1977. p. 180
- To develop the capability (including plan development, federal delegation of authority, regulations, manpower and budget) to take over and implement provisions of the recently passed Federal Pesticide Control Legislation by December 31, 1977. p. 181
- To implement and have in full operation the provisions of the aforementioned operating permit system by December 31, 1977. p. 186
- To implement a cooperative state-local control effort such as described above in four local health agencies by July 1, 1977. p. 187

1977 (cont.)

- To establish through the Nutrition Unit of the State Department of Health and Environmental Sciences guidelines for nutritional care for Montana citizens. p. 196

1978

- To form citizen auxiliaries to each existing home health agency to publicize the agency it serves by 1978. p. 72
- To encourage health insurance carriers to provide benefits for services offered in the home if they are covered as hospital benefits by 1978. p. 72
- To assess the need for ancillary services (e.g., homemaker, nutritionist, transportation) and solicit community sponsorship of needed services. p. 73
- To determine locations for new home health agencies by 1976 and to establish three new home health care agencies by 1978. p. 74
- To establish a statewide group to monitor development of home health services and make recommendations for expansion. p. 75
- To plan and implement a program for promotion of local noise control efforts including development of a model ordinance, listing of state supportive services, and public education materials detailing the need for and benefit of local control efforts by July 1, 1978. p. 167
- To develop an educational package for use by the state and local health personnel that would inform the public of the effects and control of noise (especially on an individual level) by July 1, 1978. p. 168

1979

- By 1979, to implement comprehensive school health education programs in grades kindergarten through twelve in at least one school district in each of the five areawide CHP organizations. p. 49
- To require the certification of personnel teaching health education in public schools by 1979. p. 49
- By 1979, to evaluate the plan and if it has proved its effectiveness, continue in that area and offer to other areas in the state. p. 50
- By 1979, to establish organized patient education programs in at least fifty percent of the hospitals and nursing homes in Montana. p. 50

To implement seven local noise control programs that meet the recommended outline of the SDH&ES by December 31, 1979. p. 167

UNDATED

To support and insure adequate funding for the continuation of the preventive dentistry program being conducted by the Dental Health Bureau, Department of Health and Environmental Sciences. p. 42

To actively support fluoridation of drinking water as a method of inhibiting dental disease. p. 42

To insure adequate funds to continue and expand the Title XIX screening for children currently being carried on by Maternal and Child Health Bureau, Department of Health and Environmental Sciences. p. 42

To develop a program of continuing education for dental professionals to disseminate information regarding new trends in dentistry, including prevention techniques. p. 45

To include a consideration of prevention planning in review of health-related plans. p. 46

To promote passage of federal legislation to provide demonstrations and training projects for school health education. p. 49

To encourage that local and multi-county Boards of Health be composed of consumers, providers, and locally-elected officials. p. 59

To encourage health-related programs and local health providers to utilize health information and referral operations as they are developed. p. 61

To identify all the individuals working within the Department whose responsibilities include providing information and education to the public on services provided by the Department. p. 62

To establish a coordinated public information program by combining the efforts of the scattered information people within the Department and forming a public information office attached directly to the office of the Director of the Department. p. 62

To continue financial support of the WICHE student exchange program and increase its level of support as required. p. 89

To establish advisory groups in fifteen communities without a physician whose function would be to determine the most appropriate Community Health Source for that community. p. 101

- Health facilities shall be encouraged to assist in establishing primary care services in areas without such services. p. 111
- To prevent overbedding through a review and comment mechanism, the State Plan for Hospital and Medical Facilities shall be used as the guideline for determining bed need. p. 117
- To pass certificate of need legislation. p. 117
- To prevent unnecessary duplication of services through the review and comment mechanism, the guidelines established in the Montana State Plan for Health shall be used to determine the need for the following services:
- Renal dialysis services
 - Radiation therapy
 - Rehabilitation medicine
 - Burn treatment centers
 - Cardiac catheterization services
 - Infant intensive care services
 - Open heart surgery centers
 - Intensive care units and coronary care units in small hospitals
- p. 118
- Guidelines on which to base review and comment recommendations shall be established for additional services and shall become part of the Montana State Plan for Health within four months of the time the need for such guidelines is identified by the Council. p. 118
- The areawide agencies will be encouraged to invite members of the Health Facilities Committee to their review and comment or Facilities Committee meetings. p. 119
- The Health Facilities Committee will be informed if the assessments of the areawide CHP agencies show an unmet need in the area of health facilities review. p. 119
- To contact appropriate people at the national level on a continuing basis to make them aware of the peculiar problems of health delivery in rural areas. p. 121
- To support efforts to obtain changes in Medicare and Medicaid regulations that reflect community needs. p. 121
- To take enforcement action as required to insure compliance with laws, rules and regulations pertaining to water quality. p. 143
- To provide adequate manpower, facilities, equipment, and administrative assistance to the SDH&ES Water Quality Bureau in order that a comprehensive water quality control program can be continued in future years. This sub-objective is an annual effort. p. 143

UNDATED (cont.)

- To provide adequate funding to the Building Codes and Standards Section, Architect and Engineering Bureau, State Department of Administration to allow initiation of priority efforts as discussed in the preceding situation statement. p. 149
- To repeal the referendum requirement for the establishment of a local housing authority (LHA). p. 151
- To provide input into all proposals to develop and implement a state OSHA program insuring that environmental health concerns are given proper attention and that the necessary health professionals are involved in the provision of these services. (This task should be completed prior to the date that they are submitted for legislative consideration.) p. 164
- To study and recommend methods of providing incentives to users of existing water development projects in order that the maintenance and methods of utilization give attention to vector control problems. p. 179
- To promote and encourage improvement of return flow systems of existing irrigation systems (on-going effort). p. 179
- To obtain environmental health input in the development of the land use policy study presently being conducted by the EQC. p. 183
- To undertake and complete revisions of air quality regulations in order to keep up with the state-of-the-art in air pollution control technology. This sub-objective will be an on-going process throughout this planning period. p. 186
- To demonstrate in up-coming hearings and judicial proceedings against the non-ferrous smelters, a firm stance in support of the best practicable treatment philosophy for control of air pollution. This sub-objective will be an on-going process throughout this planning period. p. 186
- To develop a program for public education involving graphic and visual aids and recommended methods, and demonstrating the health problems associated with foods and identifying the Health Department as the lead agency for reporting illness and complaints. p. 193
- To expand the funding of the State Deputy Insurance Commissioner's Office to equip it to research the practicality of establishing minimum insurance policy coverage. p. 231
- To investigate the reimbursement practice for out-patient surgery, lab, X-ray, etc.; educate third party carriers concerning the cost of existing reimbursement practices; and develop new guidelines for control over out-patient utilization of the above services. p. 233